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MONTHLY BULLETIN

OF THE

HEALTH DEPARTMENT OF THE CITY OF BOSTON.

All communications relating to this publication should be addressed to
BULLETIN OF THE HEALTH DEPARTMENT, BOSTON.

BOSTON, APRIL, 1915.

MILK.

The Board of Health is continually seizing and making examinations of samples of milk to determine whether or not it is produced by healthy animals and whether it conforms to the Massachusetts standards for purity and for percentages of milk solids and fat. If you have any doubt as to the purity of your supply, notify the milk inspector, or bring a sample to his office, Room 1104, City Hall Annex.

If a local dairy is supplying you with milk, why not make a personal inspection to see if it is produced in a cleanly manner?

Milk is one of the best of foods for germs as well as for babies. The germs which cause many of the infectious diseases, diphtheria, scarlet fever, typhoid fever, septic sore throat, etc., multiply rapidly if introduced into warm milk.

Some of these germs, such as those causing sore throats, may be introduced into the milk because the animal is suffering from inflammation of the udder, and others may be introduced by the milker or other person handling the milk if such person is suffering from or exposed to any of these contagious diseases.

While the health authorities are continually endeavoring to keep the milk from diseased animals out of the supply, and to keep persons having infections from any contact with the milk supplied to consumers, the sources are so numerous that effectual oversight is impossible.

Pasteurization, if properly done, does not materially fere with the nutritive quality, ease of digestion, or

of the milk, and does destroy germs of disease if such have been introduced into the milk. For these reasons the Board of Health favors the pasteurization of all market milk.

Approximately 80 per cent of the milk sold in Boston is pasteurized by dealers. Persons buying unpasteurized milk may render the same perfectly safe by home pasteurization.

HOME PASTEURIZATION.

Milk may be readily pasteurized in the bottles in which it is sold. For this purpose a tin pail somewhat taller than the bottles may be utilized to advantage. The bottles should not rest on the bottom of the pail, but may be supported by a perforated and inverted tin cover or plate. This will allow a free circulation of water, and raise the bottles from the bottom of the pail. Make a small hole through the cap of one of the bottles and through this suspend a Fahrenheit thermometer. Place the bottles of milk in the pail, and fill the latter with water almost to the level of the milk in the bottles. Heat the contents of the pail until the thermometer in the milk registers 140 degrees Fahrenheit. Next remove the source of the heat, allowing the bottles to remain in the hot water for thirty-five minutes. Then take the bottles from the pail, pour out some of the warm water, add cold water and replace the bottles. At the end of a few minutes repeat this operation, adding fresh portion of cold water each time until finally the bottles may be placed in cold water from the tap. To this ice may subsequently be added, or the milk cooled, but not as quickly, by placing in running tap water. While the milk should be cooled rapidly, care must at first be used in reducing the temperature of the water gradually, otherwise the bottles may be broken. When the thermometer indicates that the milk has been cooled to 50 degrees Fahrenheit or below, the thermometer and perforated cap should be removed, and the bottle closed with a new cap or covered by an inverted tumbler or cup. All of the bottles of milk should then be kept at the lowest possible temperature.

SEPTIC SORE THROAT.

During the last few days of April an outbreak of septic sore occurred on the route of a milk dealer in Dorchester. The outbreak was promptly controlled by shutting off the

1 Vol. Cont. May 14, 1929

Although the route was a small one, 227 cases of illness, due to the use of this unpasteurized milk, were investigated by the Board. In one institution twenty-two of the thirty inmates were infected, and in several families the majority of the members were ill.

The ages of the persons affected ranged from three months to eighty-seven years. Forty per cent were moderately ill, 50 per cent slightly, and 10 per cent seriously. All the cases showed sore throat with fever ranging from 100 degrees to 105½ degrees. Vomiting was present in 27 per cent of the cases, and one infant had severe convulsions. There were two deaths.

A thorough investigation of three dairies supplying the milk dealer was made, and it is believed that the infection was caused either by the return to work at one of the dairies of a young man after an illness in which sore throat and fever were prominent symptoms, or by some of the workers at the plant where the milk was bottled.

This outbreak illustrates the difficulty in keeping a sufficiently strict oversight on the many small dairies supplying a large city to prevent an occasional infection of the milk because of carelessness where the milk is produced. It also illustrates the value of pasteurization, since if this milk had been properly pasteurized before use there would have been no outbreak of disease.

A regulation of the Board of Health requires all milk vessels (bottles and cans) to be cleaned as soon as emptied and by the person who pours out the milk.

A state law prohibits the use of milk vessels (bottles and cans) as containers for substances other than milk, skimmed milk, cream, buttermilk, or water or other cleansing agent.

Will you not comply with this regulation and law by cleaning all milk vessels as soon as emptied, and return them promptly to the milkman or shopkeeper, and thus aid the movement for better milk, and assist the Board of Health in its effort to further improve the supply of this city?

In Boston, in 1914, 378,578 bottles were found at the dumps. Do you want the milk for your family delivered in such bottles?

If not, promptly return all milk bottles to the owners, and thus aid the Board of Health in giving you cleaner milk, and stop an economic loss which annually amounts to thousands of dollars.

DON'T

Blame the milk dealer for all of the milk faults unless your acts are free from criticism.

If milk sours, have you kept it iced?

If the milk is dirty, have you kept it free from dust and in clean vessels?

If the milk bottle is dirty, it is probably due to the fact that a consumer has used it for something other than milk. Are you so misusing these containers?

Do you return all milk bottles daily to the dealer? If not, get the habit.

Cleanliness in milk production means added expense. Are you willing to pay to have cow dung kept out of milk? If not, the fault is yours.

Flies will be prevalent soon unless effective measures are taken to stop the breeding of them. Flies breed in manure and filth, preferably the former. In Boston all manure pits have been abolished and manure must be removed from the stables at least every forty-eight hours. The Health Department, through its inspectors, visits every stable in Boston, and if the manure is not handled in a proper manner, the license is revoked.

Will you not help the department in ridding the city of flies by reporting any nuisance in your vicinity, whether caused by filth or from a stable and by keeping your own premises clean? Also, kill all the flies in your house that have survived the winter, as these flies are the progenitors of thousands of other flies.

All complaints to this department will be fully investigated.

If the public will only cooperate with this department team work can be developed to such an extent that the fly nuisance in this city will be reduced to a minimum.

**The Following is a Summary of the Work done by the
Different Divisions in the Department for the Five
Weeks Ending May 1, 1915:**

**MORTALITY REPORT FOR THE FIVE WEEKS AND SAME
PERIOD IN 1914.**

	1915.	1914.
Total deaths	1,362	1,327
Nonresidents	157	181
Rate	18.54	18.44
Corrected rate	16.40	15.92
Infant mortality (under 1 year)	213	202

**NUMBER OF CASES AND DEATHS FROM COMMUNICABLE
DISEASES.**

	Cases.	Deaths.
Diphtheria	323	26
Scarlet fever	558	14
Measles	1,173	4
Typhoid fever	16	1
Whooping cough	197	9
Tuberculosis	327	126

CENTRAL DIVISION.

Legal notices voted	1,765
Forcible removals	4
Stable hearings	1
Prosecutions authorized	25
Occupancy of premises restricted	6
Premises vacated	5
Lying-in hospitals certified	1
Hearings	2
Lodging houses certified	13

Licenses Issued.

Milk	1,347
Dump	8
Hens	116
Stables	1
Grease	76
Manicure — Massage	12
Manure	7
Sundry	1

COMMUNICABLE DISEASES.

Number visits by inspectors (medical)	1,938
Number visits by nurses	5,427
Antitoxin given	55
Antityphoid treatment	8
Vaccinations	58

Cases brought to Boston for treatment	102
Deaths investigated	27
Disinfections	733

CHILD HYGIENE.

Pre-natal visits	208
Post-natal visits	6,435
Babies visited	1,576

Medical Inspection of Schools.

Number inspections made	19,580
Number physical examinations	7,824
Number exclusions recommended	1,147

Examinations — Licensed Minors.

Girls	128
Boys	200

QUARANTINE.

Ships boarded	76
Passengers inspected	2,509
Passengers detained	82
Vessels fumigated	16

BACTERIOLOGICAL AND CHEMICAL LABORATORIES.

Examinations for diagnosis and release	3,195
Examinations of milk (bacteriological)	769
Chemical examinations of milk	1,169
Examinations of butter and cheese (chemical)	47
Chemical examinations of vinegar	334
Chemical examinations of ice cream	16
Chemical examination of lard	1
Court cases	25
Fines	\$380

FOOD INSPECTION.

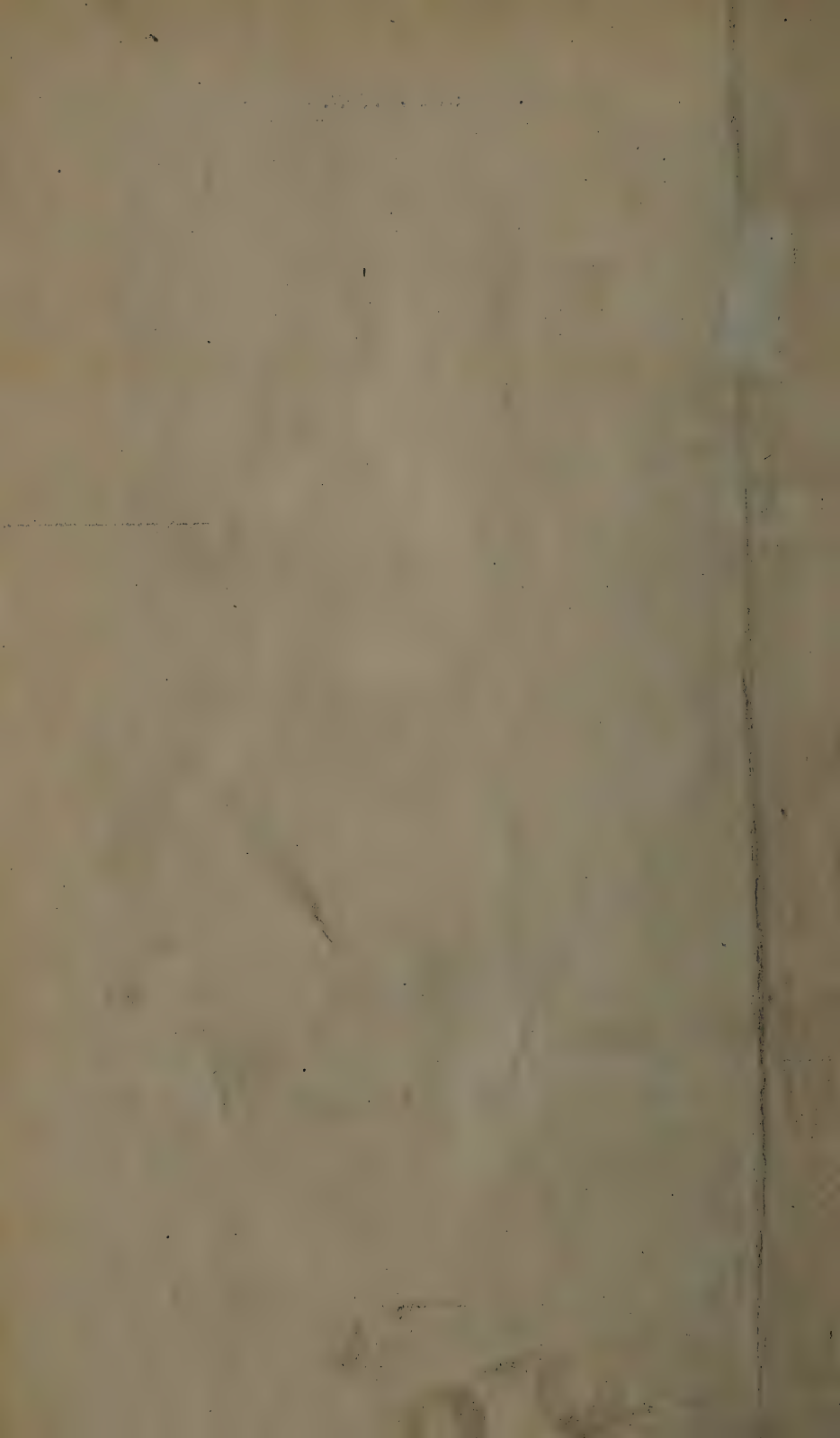
Animals inspected	10,435
Animals condemned	115
Parts condemned	195
Stores examined	2,410
Condemnations:	
Fish	669 pounds
Beef	21 pounds
Fruits	36 pounds
Vegetables	4 barrels
Poultry	77½ pounds
Pork	5 pounds
Veal	43 pounds
Miscellaneous meats	20 pounds
Court cases	2
Fines	on file

SANITARY INSPECTION.

Nuisances reported	11,473
Number of inspections	30,657
Complaints investigated	854
Court cases	9
Fines	\$212.50

SUPERINTENDENT OF PEDDLERS.

Vehicles inspected	67
Numbers assigned	124



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BOSTON, MAY, 1915.

ANTI-TYPHOID VACCINATION.

(DR. DAVID D. BROUGH.)

Our knowledge of anti-typhoid vaccination began almost simultaneously with the work of Pfeiffer and Knolle in Germany, and Wright of London in 1896.

But the value of anti-typhoid inoculation on a large scale is due to the work of Wright. In 1897 he vaccinated seventeen persons. In 1898 he inoculated 4,000 British soldiers in India. In the Boer War with Doctor Lischman he supervised the inoculation of 100,000 British soldiers.

These first series of inoculations showed the value of anti-typhoid inoculation, but were not so successful as the later results have been. This is due to the improved vaccine used and the method of application.

STATISTICS OF ANTI-TYPHOID INOCULATION.

Cullinan, in 1901, vaccinated in Richmond Insane Asylum, near Dublin, 511 persons. 1.36 per cent contracted the disease and almost all these were in the incubation stages at time of injection. Of 114 uninoculated persons 14.9 per cent contracted the disease.

Vaccination during an outbreak in Torrington, Conn., resulted in but one case of typhoid fever out of 400 inoculated. There were eighty nurses and of these forty-five were vaccinated. There were two cases of typhoid fever among the nurses who were not protected by vaccination.

In India, 1911, Firth writes that 63,624 were vaccinated. The case rate was 1.7 per 1,000 among those protected. Among non-protected 5.3 was the case rate. This means that there were more than three times as many deaths among those that contracted typhoid fever and were not inoculated against it.

In 1907 Harrison reports the following statistics relative to troops in India:

	Cases.	Deaths.
8,113 not vaccinated	2.13	0.5
2,207 vaccinated . . . . .	.68	0.13

In Harben lectures in July, 1910, Lischman reports on observations among British regiments as follows:

Ten thousand three hundred and seventy-eight individuals concerned.

	Case Rate Per 1,000.	Death Rate.
Vaccinated	5.39	8.9
Non-vaccinated	30.4	16.9

Of the 216,811 British soldiers in the colonies there were 4,677 cases of typhoid showing a case rate of 21.5 and a death rate of 4.6; of 28,110 vaccinated soldiers there were 215 cases and 34 deaths from typhoid, showing a case rate of 7.29 and a death rate of 1.20 per 1,000.

In twenty-three hospitals in Massachusetts the following results are shown:

1,662 individuals inoculated	3 cases among inoculated
674 uninoculated	8 cases among uninoculated

In the Massachusetts General Hospital for three years over 80 per cent of the nurses have been inoculated and no cases of typhoid fever have occurred. These same results have been shown in the New York hospitals.

Striking results are shown by Russell in the United States Army maneuvers in Texas in 1911: At San Antonio, 12,801 soldiers and all were vaccinated—one case of typhoid; and up to September, 1911, 81,340 men were vaccinated and among these were reported only twelve cases of typhoid with no deaths. In comparison with these results let us compare conditions in 1898 when the Second Division of United States troops were stationed at Jacksonville and none of the soldiers had been inoculated:

10,729 soldiers.
1,729 positive cases of typhoid.
248 deaths from typhoid.

The above figures, together with results obtained in vaccination throughout the country, have proven that anti-typhoid inoculation has been a valuable aid in preventive health work. The inoculation of those who are most exposed to typhoid has almost resulted in the elimination of typhoid among this class.

Typhoid inoculation is recommended by the highest medical authorities in this country and abroad. The various medical commissions who have investigated the subject report most favorably on anti-typhoid inoculation.

The anti-typhoid treatment consists of three injections of a definite number of killed typhoid organisms. The injections are given subcutaneously, preferably in the arm at the insertion of the Deltoid muscle. Each injection is given at an interval of ten days. There are never any serious results. Generally there is only a slight local reaction, some redness, swelling and pain, which rapidly passes away. It is only that a severe local reaction occurs with some constitutional disturbance. In healthy persons typhoid inoculation is an entirely harmless proceeding.

The typhoid prophylactic used in Boston is prepared and furnished by the State Board of Health.

Treatment can be taken by both adults and children and will be administered free, upon request, by the physicians of this department.

Successfully inoculated persons are perfectly protected against typhoid infection. The period of protection lasts from two to three years or more.

The treatment is especially recommended for those who are brought in contact with the sick from occupation or necessity, and to vacationists and travelers who leave the city. Much of the fall typhoid is brought into the city by those who have been in some infected locality during the summer.

In this vicinity the Chief of the Dairy Division and the inspectors who travel through the country inspecting dairy farms were among the first to receive the treatment, and later all the employees of this department were inoculated. Since then, through the publicity given by the Health Department, its physicians have given this preventive serum to all those who have been exposed to this disease and to other people who were about to leave the city and wished the treatment.

The following Press articles taken from Boston daily papers show how the value of anti-typhoid inoculation is being demonstrated anew in the English and French armies:

WOUNDED NEVER SO WELL OFF.

British Surgeon Also Points to Remarkable Record Achieved by Anti-typhoid Inoculation.

LONDON, January 23. Sir Frederick Treves, the well-known surgeon, in speaking before the Royal Society of Arts last night, said that the results

achieved by inoculation against typhoid fever in the British expeditionary force have been "positively astounding." He said that since the war began there had been only 212 cases, of which 173 were among persons who had not been inoculated. There had been only twenty-two deaths and none of those who died had been inoculated. Not a single death from typhoid fever had occurred among those inoculated.

"There never has been a time in the history of any campaign where the wounded soldier has been better looked after," said Sir Frederick. "When the history of this war is written, one of its most astounding features will be the sanitary precautions taken to secure the health of our soldiers and their cure in disease."

TYPHOID STOPPED.

Effect of Vaccination on New Troops Sent to Front.

PARIS, January 13. The war has demonstrated beyond all question, according to members of the medical commission, the efficaciousness of anti-typhoid vaccination.

Most of the members of the active army had been vaccinated before the war, but the reservists and territorials drafted and sent to the front later had not, and as a result, towards the end of October, a large number of cases of typhoid developed.

The medical commission sent doctors to the firing line, and they vaccinated a whole army corps of 40,000 men. By the end of December the good results of this treatment became apparent, as typhoid had virtually disappeared, the only cases remaining being among the men of two regiments which the doctors were unable to reach.

SUMMARY OF VITAL STATISTICS.

Boston had 993 deaths reported in the four weeks ending May 29, against 894 in the corresponding period last year, and a death rate of 16.90 against 15.52 last year.

Deaths of nonresidents reported numbered 152 against 107 last year.

Of deaths from reportable diseases the principal decrease was:

Measles	7
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and the principal increases were:

Diphtheria	15
Scarlet fever	11
Tuberculosis (pulmonary)	11
Whooping cough	3

Other important differences were as follows:

May (four weeks), 1915, decreases compared with corresponding period 1914:

Organic diseases of heart, endocarditis and nephritis	24
Pneumonia	24
Bronchitis	8

May (four weeks), 1915, increases compared with corresponding period 1914:

Other causes	96
Cancer	9
Accidental and violent	8
Diarrhea and enteritis (under 2 years)	4
Diarrhea and enteritis (2 years and over)	4

There were 24 more deaths under 1 year, 31 more deaths under 5 and 18 more deaths over 60.

Ward rates based upon deaths reported between January 2 and May 29 show that Ward 8 is leading with the low rate 11.71, and Ward 6 is second with the rate 12.05.

The highest rates, 19.33, 18.87, 17.84, are found respectively in Wards 5, 7 and 18.

Deaths under 1 year reported from January 2 to May 29 number 812 against 800 for the corresponding period last year.

The total number of 1915 deaths reported up to noon, May 30, was 5,395 against 5,290 in the same period last year.

The Following is a Summary of the Work done by the Different Divisions in the Department for the Four Weeks Ending May 29, 1915:

MORTALITY REPORT FOR THE FOUR WEEKS AND SAME PERIOD IN 1914.

	1915.	1914.
Total deaths	993	894
Nonresidents	152	107
Rate	16.90	15.52
Corrected rate	14.31	13.66
Infant mortality (under 1 year)	166	142

NUMBER OF CASES AND DEATHS FROM COMMUNICABLE DISEASES.

	Cases.	Deaths.
Diphtheria	297	23
Scarlet fever	419	18
Measles	825	5
Typhoid fever	17	1
Whooping cough	184	5
Tuberculosis	273	87

CENTRAL DIVISION.

Legal notices voted	1,120
Forcible removals	6

Stable hearing	1
Prosecutions authorized	2
Occupancy of premises restricted	1
Premises vacated	7
Lying-in hospitals certified	2
Hearing	1

Licenses.

Milk	2,264
Dumps	2
Hens	72
Stable (conditional)	1
Manicure — Massage	10
Manure	6
Sundry (assignment of premises)	1
Dump permit revoked	1
Hen permit revoked	1
Dump permit refused	1

COMMUNICABLE DISEASES.

Number visits by inspectors (medical)	1,826
Number visits by nurses	4,287
Antitoxin given	3
Anti-typhoid treatment	3
Vaccinations	637
Cases brought to Boston for treatment	68
Deaths investigated	25
Disinfections	409

CHILD HYGIENE.

Prenatal visits	232
Postnatal visits	5,535
Babies visited	1,285

Medical Inspection of Schools.

Number inspections made	18,445
Number physical examinations	6,614
Number exclusions recommended	1,824

Examinations — Licensed Minors.

Girls	120
Boys	218

QUARANTINE.

Ships boarded	62
Passengers inspected	1,417
Vessels fumigated	11

BACTERIOLOGICAL AND CHEMICAL LABORATORIES.

Examinations for diagnosis and release	2,641
Examinations of milk (bacteriological)	588
Chemical examinations of milk	1,253
Examinations of butter and cheese (chemical)	16
Chemical examinations of vinegar	83
Chemical examinations of ice cream	23
Bacteriological examinations of water	2
Court cases	43
Fines	\$685
Cases placed on file	6

FOOD INSPECTION.

Animals inspected	7,791
Animals condemned	69
Parts condemned	297
Stores examined	1,940

Condemnations:

Fish	1,032 pounds
Beef	494 pounds
Vegetables	180 pounds
Poultry	107 pounds
Pork	51 pounds
Court case	1
Fine	\$5

SANITARY INSPECTION.

Nuisances reported	8,922
Number of inspections	14,233

SUPERINTENDENT OF PEDDLERS.

Vehicles inspected	297
Numbers assigned	661

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BOSTON, JUNE, 1915.

**MOTHERS WITH LITTLE BABIES, READ THIS AND
DO JUST AS IT SAYS FOR THE SAKE OF
YOUR BABY'S HEALTH.**

The Best Food is Mother's Milk.

Nurse Your Baby for the First Twelve Months. If you do, its chances for life and health will be ten times greater than the chances of a bottle-fed baby. Never wean a baby less than a year old, except at the doctor's advice. Do not wean a baby in hot weather.



Nurse Your Baby at Regular Times

But Never More Than Once in Two Hours. Baby should sleep six hours or more each night without being waked. Wake baby promptly if asleep when the regular time for nursing comes. Give baby all the cool boiled water it wants. Baby may cry because you feed it too often and too much; because it wants water; because it aches from too much handling; because it is too hot — flannel shirts in summer bring prickly heat.

Milk.

If You Think You Cannot Nurse Your Baby Enough, or at all, consult a doctor before making any change. The



question is too serious for you to decide by yourself. Buy good, clean milk and prepare it just as the doctor directs, or get it already prepared from the milk stations. Keep the milk

DO NOT USE A
BOTTLE WITH
CORNERS OR
A TUBE.



USE A BOTTLE
LIKE THIS

cold, covered and clean. Put it in clean bottles. Never use a feeding bottle with a tube on it. Never give baby cheap, dirty milk, or tea, coffee, beer, syrups or solid food.

Clothing.

In Hot Weather One Thin Piece is Enough. Baby feels heat more than you. Keep baby cool; it will not catch cold.



Bathing.

Wash Baby All Over Every Morning. In hot weather sponge it often with cool water.

Fresh Air.

Keep the Windows Open Day and Night. In summer sleep on the roof or in the yard with baby, if you can. Baby should sleep alone and in the coolest, quietest room. Keep



baby out of the kitchen. Keep flies out of the house and protect baby from them. Take baby to the parks as often as you can, even for a few moments.

When You Cannot Nurse Your Baby

And You Want to Keep it Well, consult your physician before using any milk or patent food.

If Baby is Sick, Vomits or has Diarrhea

Stop Feeding Altogether; Give it Water Instead, and take it to your doctor or to some children's hospital or dispensary.

Special Notice to Parents to Prevent Blindness in Children.

Should One or Both Eyes of an Infant Become Inflamed, swollen and red, and show an unnatural discharge at any time within two weeks after its birth, it shall be the duty of the nurse, relative or other attendant having charge of such infant to report in writing within six hours thereafter the fact that such inflammation, swelling and redness of the eyes, and unnatural discharge exist, to the

HEALTH DEPARTMENT,
City Hall Annex, Boston.

WHY THE HEALTH DEPARTMENT HAS STOPPED THE PRACTISE OF FUMIGATION AFTER CONTAGIOUS DISEASES.

Since the discovery that many diseases were caused by bacterial infection, it has become the universal custom to disinfect rooms occupied by such patients, upon their recovery, removal or death, in order that the germs remaining in the rooms might be destroyed, and the danger of contagion diminished.

Various methods of disinfection were at first used, but finally the use of formaldehyde, in one or another form, became almost universal.

Dr. C. V. Chapin, of Providence, R. I., was probably the first to seriously protest against this practise.

He claimed that as the life of these germs outside the body was very brief and they were easily killed in the presence of light and air, the money spent in the disinfection of rooms was practically wasted.

He claimed further that this practise tended toward positive injury to the public health in creating a feeling of security which was unwarranted, since the ordinary householder, after disinfection of the room, felt that danger of contagion was now definitely a thing of the past.

To the contrary it has been established that the chief danger is with the recovered patient, as the bacteria find congenial surroundings only in their site in the human body, and in spite of all efforts to eradicate them and in spite of negative tests as to their presence, a certain proportion of those recovering from these infections became carriers.

The emphasis then should be laid upon care to be taken to avoid contact with contagious discharges from the released patient rather than upon fear of infection from inanimate objects.

For several years Providence, R. I., has had no disinfection after these diseases and finds no greater prevalence than when such action was diligently performed. More recently New York, Milwaukee and other cities have also dispensed with this needless procedure.

For the last four years the Boston Health Department continued gaseous fumigation of rooms after but three of the more common infections, tuberculosis, diphtheria and scarlet fever, using, however, in the two latter diseases, the smallest available formaldehyde candle, regardless of the size of the room to be fumigated. Such fumigation, equivalent to no disinfection at all, was kept up only in response to the popular demand for some action of this kind. During this period of practical abandonment of room disinfection, the city has been normal in regard to these diseases, nor have there been more than the ordinary number of secondary cases. Throughout this time the Board has placed special emphasis upon careful isolation of the infected person together with definite instruction to the attendants for the destruction of any infectious material which might come from him.

With the beginning of the present spring, therefore, the disinfection of rooms after infectious diseases, excepting tuberculosis and smallpox, was discontinued in Boston, excepting upon request (and such requests have been remarkably few). Visits are still made upon release from quarantine and advice given as to the disinfection of clothing and other articles in immediate use by the patient, the airing and cleansing of the room, etc.

Rooms which have been occupied by consumptives are now disinfected by the old method of steaming formaldehyde through the keyhole, using 20 ounces of the 40 per cent solution to 1,000 cubic feet of space.

BOY SCOUTS HELP IN SANITARY WORK.

During the last two weeks of June the Boy Scouts of the city engaged in a sanitary campaign with the especial object in view of exterminating and preventing the breeding of flies.

The work was carefully and intelligently planned and executed and premises concerning which unfavorable reports were made by the Scouts were immediately investigated by Sanitary Inspectors of the Health Department and steps taken to remedy conditions at fault.

The breeding of flies in this city has been prevented to a great extent during the past few years by the strict enforcement of the Board of Health regulation concerning manure and stable refuse, but there is still much room for improvement and the cooperation of those outside the department is especially acceptable.

This kind of work, engaging as it does a large number of our future citizens in a clean-up campaign, is most valuable from an educational standpoint to the boys themselves. When they in turn become property owners they will be more inclined to keep their premises in sanitary condition or to comply readily with the request of the Health Department.

The department is grateful to the Boy Scouts for their assistance and glad to add their organization to those which have in the past encouraged it in its work by organized cooperation.

SUMMARY OF VITAL STATISTICS.

Boston had 1,000 deaths reported in the five weeks ending July 3, against 1,095 in the corresponding period last year, and a death rate of 13.61 against 15.21 last year.

Deaths of nonresidents reported numbered 150 against 148 last year.

Of deaths from reportable diseases the principal decreases were:

Tuberculosis (all forms)	8
Measles	3

and the principal increases were:

Diphtheria	9
Scarlet fever	6
Whooping cough	6

Other important differences were as follows:

June (five weeks), 1915, decreases compared with corresponding period of 1914:

Accidental and violent	33
Pneumonia	25
Diarrhea and enteritis (under 2 years)	18
Organic diseases of heart, endocarditis and nephritis	17
Cancer	12
Premature birth	8

June (five weeks), 1915, increases compared with corresponding period of 1914:

Other causes	11
Bronchitis	3
Rheumatism	3

There were 28 less deaths under 1 year, 27 less under 5 years, and 10 more over 60.

Ward rates based upon deaths reported between January 2 and July 3 show that Ward 8 is leading with the low rate, 11.52; Ward 11 is second with the rate, 11.86; the highest rates, 18.48, 17.15 and 16.65, are found respectively in Wards 7, 5 and 12.

Deaths under 1 year reported from January 2 to July 3 number 956 against 972 for the corresponding period last year. The total number of 1915 deaths reported up to noon of July 4 was 6,387 against 6,385 in the same period last year.

The Following is a Summary of the Work done by the Different Divisions in the Department for the Five Weeks Ending July 3, 1915.

MORTALITY REPORT FOR THE WEEK AND SAME PERIOD IN 1914.

	1915.	1914.
Total deaths	1,000	1,095
Nonresidents	150	148
Rate	13.61	15.21
Corrected rate	11.57	13.15
Infant mortality (under 1 year)	144	172

NUMBER OF CASES AND DEATHS FROM COMMUNICABLE DISEASES.

	Cases.	Deaths.
Diphtheria	340	23
Scarlet fever	403	10
Measles	947	9
Typhoid fever	28	3
Whooping cough	222	10
Tuberculosis	311	11

CENTRAL DIVISION.

Legal notices voted	1,141
Forcible removals	8
Permits to dump revoked	2
Stable hearings	4
Stable permits refused	2
Prosecutions authorized	5
Occupancy of premises restricted	9
Premises vacated	6
Lying-in hospital certified	1
Hearings	2

Licenses Issued.

Massage — Manicure	269
Manure	2
Dumps	3
Milk	776
Hens	12
Stables	2
Assignments	1

COMMUNICABLE DISEASES.

Number visits by inspectors (medical)	1,254
Number visits by nurses	4,579
Antitoxin given	42
Anti-typhoid treatment	3
Vaccinations	114
Cases brought to Boston for treatment	68
Deaths investigated	9
Disinfections (Tuberculosis 265, Smallpox 1)	266

CHILD HYGIENE.

Prenatal visits	136
Postnatal visits	4,378
Babies visited	1,092

Medical Inspection of Schools.

Number inspections made	13,547
Number physical examinations	2,906
Number exclusions recommended	1,340

Examinations — Licensed Minors.

Girls	308
Boys	455

BACTERIOLOGICAL AND CHEMICAL LABORATORIES.

Examinations for diagnosis and release	2,647
Examinations of milk (bacteriological)	586
Chemical examinations of milk	1,352
Examinations of ice cream	53
Chemical examinations of vinegar	74
Court cases	81
Fines	\$1,618

FOOD INSPECTION.

Animals inspected	7,715
Animals condemned	421
Parts condemned	21
Stores examined	2,576
Condemnations:	
Fish	2,642 pounds
Beef	1,383 pounds
Poultry	271 pounds
Pork	37 pounds
Lobster	5 pounds
Vegetables	11,710 pounds
Canned goods	908 cans
Eggs	4 dozen

SANITARY INSPECTION.

Nuisances reported	10,715
Number of inspections	15,997
Complaints investigated	923
Court cases	2

SUPERINTENDENT OF PEDDLERS.

Vehicles inspected	717
Numbers assigned	196

MONTHLY BULLETIN

OF THE

HEALTH DEPARTMENT OF THE CITY OF BOSTON.

All communications relating to this publication should be addressed to
BULLETIN OF THE HEALTH DEPARTMENT, BOSTON.

BOSTON, JULY, 1915.

SMALLPOX AND VACCINATION.*

In the Eighteenth Century from 85 to 95 per cent of the inhabitants of European countries contracted smallpox at some period of their lives. The disease was as common at this time as measles is at the present. Government records of Denmark give statistics of the terrible epidemic which raged in Iceland in 1707, destroying 18,000 people out of a total population of 50,000. In Greenland, in 1734, nearly two-thirds of the population died of smallpox. The French physician De la Condamine stated, in 1754, that every tenth death was due to smallpox, and that one-quarter of mankind was either killed by it or disfigured for life.

After one epidemic at Chester, England, 1744, it was found that there was only 7 per cent of the population that had never had smallpox. Admiral Berkeley, in a speech before the House of Commons in 1802, states: "It is proved that in this United Kingdom alone 45,000 persons died annually of the smallpox, but throughout the world what is it? Not a second is struck by the hand of time but a victim is sacrificed upon the altar of that most horrible of disorders, the smallpox."

The disease was introduced into the Western Hemisphere by the Spaniards about fifteen years after the discovery of America. In Mexico, within a short period, 3,500,000 persons are said to have died from it. Whole tribes of Indians were exterminated, leaving no one to tell the story of their annihilation. Catlin makes the astounding statement in his celebrated volume, "Notes on the North American Indian," published in 1841, that of 12,000,000 American Indians, just half of them fell victims to smallpox.

* California State Board of Health Bulletin, August, 1910.

RESULTS OF INTRODUCTION OF VACCINATION.

These facts are not denied by those opposed to vaccination, and those who have examined the statistical records for the years immediately following the introduction of vaccination admit also that there was a great falling off in the deaths from smallpox. This decrease in mortality strikes the reader as little short of marvelous. In Sweden, for instance, where the records of smallpox mortality have been most carefully kept, there died every year from smallpox, in the twenty-eight years before vaccination, 2,050 persons out of each million. In the forty years following the introduction of vaccination but fifty-eight deaths are recorded per million of the population. Certain of the opponents of vaccination argue that sanitary improvements are responsible for this tremendous decrease in smallpox deaths. If this is the case they must explain why improved sanitary conditions have not exerted a similar influence on measles, whooping-cough and scarlet fever, diseases much akin in their dissemination to smallpox. These diseases are very different from an infection like typhoid fever, for their occurrence is not the result of any definite sanitary errors.

VACCINATION CONTROLS SMALLPOX.

Furthermore, smallpox continued to rage outside of those countries where vaccination was practised, and up to the present improved sanitary conditions have exerted little effect in checking the disease. Thus in the Russian Empire the laws concerning vaccination are not at all rigidly enforced, and it is estimated that but one-thirtieth of the population have been successfully vaccinated. Spain, also, is a country that is meagerly protected by vaccination. In Austria and Hungary the vaccination laws are lax, and vaccination is poorly enforced in Italy. In the European epidemic from 1893 to 1897, 275,503 persons in the Russian Empire died from smallpox. In Spain there were over 23,000 deaths. Over 12,000 people died of the disease in Hungary, and over 23,000 in Austria and Italy. In Germany during this period there were only 287 deaths from the disease.

Again, Dr. W. W. Keene, of Philadelphia, reports that after America took possession of Porto Rico the government vaccinated over 800,000 persons during an epidemic of smallpox, and in four months smallpox was abolished. This epidemic was controlled solely by vaccination and there was no change in the sanitary condition.

OLD AND NEW METHODS.

Much of the antivaccination literature is filled with statements of the readiness with which disease is transmitted by vaccine virus. In the old days, before the transmission of disease was well understood, it was the practice among many physicians to vaccinate by what was called "the arm to arm method"; that is, a small amount of the contents of the pustule of a successful vaccination on one person was introduced into the arm of another. There is no question that some diseases were spread in this way, and the practice cannot be too strongly condemned. No medical man of modern training would defend for a moment such a dangerous procedure, and no doubt it gave rise to much of the agitation against vaccination at the present day. Now the United States Public Health Service has direct supervision over all vaccine establishments doing an interstate business with power to revoke their licenses immediately. This most efficient service protects the public with unceasing diligence.

VACCINE AND TETANUS.

Dr. John F. Anderson, Director of the Hygienic Laboratory of the United States Public Health Service, in the July 16, 1915, number of the Public Health Reports gives the details of a very extensive investigation of the subject of tetanus after vaccination. During the period 1904-13 he finds in the United States but 41 authenticated cases among over 31,000,000 vaccinations, and reasons that if the virus had been at fault there would have been many more cases, since it is the custom to make many vaccinations from one lot of virus.

During the last thirteen years there has been examined in the Hygienic Laboratory, specifically for the organism of tetanus, virus sufficient for the vaccination of over 2,000,000 persons and in no instance could the tetanus germ or its products be found.

Five hundred eighty-five thousand vaccinations were performed in the army and navy during this period without a single case of tetanus following.

In the 41 cases mentioned, tetanus developed so late as to indicate infection, not at the time of vaccination, but at a later period, possibly by contamination of the vaccination wound through lack of care.

ANTIVACCINATION 1915

The slight operation of vaccination once greeted as a welcome relief from the scourge of smallpox is now denounced by a few

short-sighted and unhappily verbose persons in the very countries where its beneficial effects are most enjoyed. We do not fear smallpox as our fathers did because we seldom see it. Vaccination and revaccination have driven it from our midst.

It still rages, however, in countries not protected by compulsory vaccination and is to-day the same dread disease it was before the days of Jenner. For any population to remain unvaccinated is but to invite its ravages.

FREE VACCINE.

The Massachusetts State Department of Health furnishes vaccine virus free for all citizens of the Commonwealth. Each lot is carefully tested before distribution and is perfectly safe.

The state law requires the vaccination of children, excepting of those physically unfit, before entering school, and in the opinion of this Board any child physically unfit for vaccination is also physically unable to attend school.

FREE VACCINATION.

Have the children vaccinated now, that the arms may be well before school begins. If you desire, the vaccination will be made without cost by a physician from this department who will be present from 10 a. m. to 12 m. each week day at the Charity Building basement, on Chardon street.

REVACCINATION.

A single vaccination does not protect from the disease through life. A child vaccinated before beginning school should be revaccinated twice, at about the ages of 14 and 20, for complete protection.

SUMMARY OF VITAL STATISTICS.

Boston had 800 deaths reported in the four weeks ending July 31, against 730 in the corresponding period last year, and a death rate of 14.33 against 13.22 last year.

Deaths of nonresidents reported numbered 107 against the same number last year.

Of deaths from reportable diseases the principal decreases were:

Measles	6
Scarlet fever	3

and the principal increases were:

Tuberculosis (all forms)	15
Diphtheria	11
Typhoid fever	6
Whooping cough	6

Other important differences were as follows:

July (four weeks), 1915, decreases compared with corresponding period of 1914:

Organic diseases of heart, endocarditis and nephritis	20
Diarrhea and enteritis (under 2 years)	6

July (four weeks), 1915, increases compared with corresponding period of 1914:

Pneumonia	23
Other causes	22
Premature birth	17
Diarrhea and enteritis (2 years and over)	7

There were 3 more deaths under 1 year, 29 more under 5 years, and 44 more over 60.

Ward rates based upon deaths reported between January 2 and July 31 show that Ward 8 is leading with the low rate, 11.74; Ward 11 is second with the rate, 12.05; the highest rates, 19.31, 17.84 and 17.56, are found respectively in Wards 7, 18 and 12.

Deaths under 1 year reported from January 2 to July 31 number 1,086 against 1,099 for the corresponding period last year. The total number of 1915 deaths reported up to noon of August 1 was 7,184 against 7,115 in the same period last year.

The Following is a Summary of the Work done by the Different Divisions in the Department for the Four Weeks Ending July 31, 1915.

MORTALITY REPORT FOR THE FOUR WEEKS AND SAME PERIOD IN 1914.

	1915.	1914.
Total deaths	800	730
Nonresidents	107	107
Rate	14.32	13.22
Corrected rate	12.41	11.28
Infant mortality (under 1 year)	130	127

NUMBER OF CASES AND DEATHS FROM COMMUNICABLE DISEASES.

	Cases.	Deaths.
Diphtheria	181	16
Scarlet fever	141	4
Measles	306	1
Typhoid fever	42	7
Whooping cough	224	12
Tuberculosis	191	81

CENTRAL DIVISION.

Legal notices voted	744
Forcible removals	7
Prosecutions authorized	95
Occupancy of premises restricted	5
Premises vacated	25
Hearing	1

Licenses Issued.

Massage — Manicure	27
Hens	17
Stable	1
Dumps	2
Milk	162

Licenses Revoked.

Conditional stable permit revoked	1
Manicuring license revoked	1

COMMUNICABLE DISEASES.

Number visits by inspectors (medical)	1,102
Number visits by nurses	2,764
Antitoxin given	5
Antityphoid treatment	1
Cases brought to Boston for treatment	24
Deaths investigated	16
Disinfections	158

CHILD HYGIENE.

Prenatal visits	152
Postnatal visits	5,381
Babies visited	1,467

Examinations — Licensed Minors.

Girls	264
Boys	221

DIVISION OF DAIRY INSPECTION.

Dairies shipping at time of inspection	1,068
Dairies not shipping at time of inspection	45
Plant inspections	38
Total inspections	<u>1,151</u>

Dairies scoring above fifty points*	720
Dairies scoring below fifty points	348
Dairies having milk room provided	268
Dairies having no milk room provided	1,068
Number cows inspected	11,944
Dairies prohibited shipping milk to Boston	345
Dairies allowed to resume shipment to Boston having complied with Board of Health requirements	228

BACTERIOLOGICAL AND CHEMICAL LABORATORIES.

Examinations for diagnosis and release	1,869
Examinations of milk (bacteriological)	603
Chemical examinations of milk	314
Examination of butter and cheese (chemical)	2
Chemical examinations of vinegar	191
Bacteriological examinations of ice cream	24
Chemical examinations of ice cream	36
Court cases	39
Fines	\$710

FOOD INSPECTION.

Animals inspected	3,698
Animals condemned	11
Parts condemned	203
Stores examined	1,447
Condemnations:	
Fish	965 pounds
Beef	39 pounds
Poultry	244 pounds
Pork	13 pounds
Veal	153 pounds
Bear meat	85 pounds
Berries and cherries	460 lots
Mangoes	39 crates

SANITARY INSPECTION.

Nuisances reported	8,787
Number of inspections	12,705
Complaints investigated	819
Court cases	10
Fines	\$50

SUPERINTENDENT OF PEDDLERS.

Vehicles inspected	15
Numbers assigned	117

* Dairies must score fifty points to be considered passable.

MONTHLY BULLETIN

OF THE

HEALTH DEPARTMENT OF THE CITY OF BOSTON.

FRANCIS X. MAHONEY, M. D., *Commissioner of Health.*

All communications relating to this publication should be addressed to BULLETIN
OF THE HEALTH DEPARTMENT, BOSTON.

BOSTON, AUGUST, 1915.

SCHOOL CHILDREN AND COMMUNICABLE DISEASES.

With the close of the summer vacation and the reopening of the schools, the communicable diseases usually show an appreciable increase, which may be attributed to several features. During the summer period the children have been living practically an out-of-door life, and their systems have been in the best possible condition to throw off any chance of infection. They have been playing in small groups, representing at most two or three families, and the opportunity of introducing infection has therefore been relatively slight. Now they make a sudden change to several hours of indoor life daily, which, with close application to their studies, must have an effect in many instances of reducing the vitality of the bodies. Children from widely separated localities are brought together in one common environment, and in spite of the utmost precautions, the chances of introducing communicable diseases are greatly increased. Much could be done in the way of prevention if the parents would observe a few simple rules concerning their children, keeping them away from contact with others when there is any indication of communicable disease present.

Sore throats in children should always be regarded with suspicion. Many of the communicable diseases, especially scarlet fever and diphtheria, begin with a sore throat. Often a diphtheretic throat is more mild at first than an attack of tonsillitis. If your child has a sore throat it should not be allowed to attend school, where it will probably pass its trouble on to others. You would be most indignant if some other parent allowed his child to attend school while ill, passing on a disease to your children. The Golden Rule is as applicable

here as elsewhere: "Do unto others as you would that they should do unto you."

When a child has a sore throat, then it is always a safe rule to keep it isolated from others and to send for your physician, in order that he may take a culture. The mildest case of diphtheria may be followed with paralysis if not properly and quickly treated with anti-toxin.

The first symptoms of measles are watery eyes, sneezing, nasal discharge, bad breath, sore throat, or a tendency towards sore throat, accompanied by coughing and, frequently, fever. These symptoms appear a few days before the rash, and the disease may be communicated to others before the rash appears. A child with these symptoms should be isolated from others until it is sure measles is not present. On no account send it to school, for one such child may give the disease to a whole roomful. If a rash breaks out on a child's face or body, it should be kept from school and a physician should be consulted.

Children's teeth should be examined and treated by competent dentists, at least twice a year, and they should be taught to keep their teeth clean. Many of the more obscure troubles of children are occasioned by decayed or neglected teeth. The Forsyth Dental Institute on Huntington avenue now furnishes free treatment to any school children of the city whose parents are unable to employ practising dentists. So there is no excuse for allowing their teeth to be uncared for.

Do not compel the smaller children, below the age when home studies are required, to remain indoors on account of home duties or lessons during the hours of daylight when school is out of session. Their health requires all the outdoor exercise possible for them to obtain in pleasant weather. Neither should they be allowed to pore over studies in the evening. If they are unable to keep up with their classes with the required hours in school, it is better to allow them to drop back a year than to ruin their health by unwise and unreasonable application.

NOTICEABLE SYMPTOMS.

Conditions which would call for isolation and special attention in children who feel ill: A sore throat should make one think of scarlet fever or diphtheria; a persistent discharge from the nose, of diphtheria; a catarrh or cough with fever, of measles; vomiting with fever, of scarlet fever; weakness or lassitude in a child previously well, of diphtheria; a cough which comes in spells, of whooping cough; a croupy cough, of

laryngeal diphtheria; a rash on the skin, of measles, scarlet fever, rubella, or chicken pox.

TYPHOID FEVER IN THE JAMAICA PLAIN DISTRICT.

On Monday, August 16, a case of typhoid fever was reported in the Roxbury district. The case was immediately investigated, patient removed to the hospital, and source of infection sought for.

Upon inquiry it was found that a church picnic had taken place in Franklin Park, July 25. About ninety adults and children attended the outing. The food partaken of by the people was brought from the different homes, with the exception of the ice cream, which was made at the homes of two of the gathering, and also purchased nearby. All the milk and cream used was found to have been pasteurized.

Further investigation revealed the fact that many of the children and adults drank water from a brook on the grounds. Samples of this water were obtained and examined in our bacteriological and chemical laboratories, with the report that they found, as a result of the chemical analysis, that the water was heavily polluted and probably infected.

Mr. Dillon, Commissioner of Parks and Recreation, was immediately notified and he at once ordered that signs be erected prohibiting the drinking of this infected water.

As a result of using this water four adults and eleven children were infected, and one death ensued.

Despite the fact that a public convenience station with a supply of safe city running water was nearby, these people drank from a brook which was found to be highly polluted and infected.

NOTICE TO PHYSICIANS.

The Health Commissioner has sent to each physician in Boston a copy of the following letter:

OFFICE OF THE COMMISSIONER OF HEALTH,
CITY HALL ANNEX, August 27, 1915.

DEAR DOCTOR:

The Health Department wishes to use all the means in its power to reduce the number of cases of dysentery and all deaths from this cause among infants. It is now required by law that all cases of dysentery be reported to the department at once in writing, and this matter is called to your attention, in order that there may be no chance of a misunderstanding. It is not the intention of the department to interfere in any

way in the care of these cases by the physicians or to quarantine them. It is highly important that immediate notification be made of all diarrhoeal conditions among infants, that the milk supplies and the sanitary conditions of the homes may be investigated.

Postals for notification of reportable diseases are furnished free.

Very truly yours,

F. X. MAHONEY, M. D.,
Commissioner.

WARNING! DANGEROUS FUNGI.

The Health Department of the City of Boston desires to caution the public against buying mushrooms which are dangerous to health from vendors on the street. These vendors who gather the mushrooms in the wild state do not know the dangerous variety from the harmless, and many of the mushrooms offered for sale by them at the present time are of the poisonous kind. All the poisonous varieties liable to be offered for sale in this vicinity belong to the group called *Amanita*, of which class there are many kinds, therefore the Health Department advises that no mushrooms of the *Amanita* family be offered for sale.

The distinguishing marks are:

1. The large bulbous form of the root end, or cup at base.
2. The large veil or apron-like growth on the stem.
3. The white gills or under portion of the cap.

The public is warned not to use for food any mushroom having these three distinguishing marks combined. The public is also warned not to rely on the silver test for the determination of poisonous mushrooms as this test has been proven of no value.

In the past three weeks there has been one death from mushroom poisoning in Boston, and seven persons afflicted with severe illness. Those recovering had eaten but a single small piece but suffered severely for seven days. In the fall of 1911 twenty-two persons died in New York City and more than one hundred in the State of New York from eating poisonous mushrooms.

Owing to the long rainy season of the summer, mushrooms have sprung up in abundance around Boston, and the Health Department issues this circular to prevent if possible the sale of these poisonous mushrooms.

SUMMARY OF VITAL STATISTICS.

Boston had 823 deaths reported in the four weeks ending August 28, against 767 in the corresponding period last year, and a death rate of 14.74 against 13.89 last year.

Deaths of nonresidents reported numbered 110 against 127 last year.

Of deaths from reportable diseases the principal decrease was:

Tuberculosis (all forms)	6
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and the principal increases were:

Cerebro-spinal meningitis	3
Whooping-cough	9

Other important differences were as follows:

August (four weeks), 1915, increases compared with corresponding period of 1914:

Pneumonia	12
Diarrhea and enteritis (under 2 years)	16
Other causes	32

There were 17 more deaths under 1 year, 52 more under 5 years and 9 less over 60.

Deaths under 1 year reported from January 2 to August 28 numbered 1,272 against 1,262 for the corresponding period last year. The total number of 1915 deaths reported up to noon of August 29 was 8,009 against 7,882 in the same period last year.

The Following is a Summary of the Work done by the Different Divisions in the Department for the Four Weeks Ending August 28, 1915.

MORTALITY REPORT FOR THE WEEK AND SAME PERIOD IN 1914.

	1915.	1914.
Total deaths	823	767
Nonresidents	110	127
Rate	14.74	13.89
Corrected rate	12.77	11.59
Infant mortality (under 1 year)	186	169

NUMBER OF CASES AND DEATHS FROM COMMUNICABLE DISEASES.

	Cases.	Deaths.
Diphtheria	222	14
Scarlet fever	95	3
Measles	112	4
Typhoid fever	50	5
Whooping cough	206	10
Tuberculosis	222	75

CENTRAL DIVISION.

Legal notices voted	682
Forcible removals	7
Permit to dump revoked	1
Stable hearings	6
Stable permit refused	1
Prosecution authorized	0
Occupancy of premises restricted	0
Premises vacated	376
Lying-in hospital certified	0
Hearing	1
Sewer connections ordered	11

Licenses Issued.

Massage — Manicure	18
Manure	2
Dump	1
Milk	115
Hens	126
Stable	1
License to remove grease, bones, etc.	1
Licenses renewed to remove grease, bones, etc.	65

COMMUNICABLE DISEASES.

Number visits by inspectors (medical)	1,018
Number visits by nurses	1,833
Antitoxin given	6
Anti-typhoid treatment	16
Vaccinations	15
Cases brought to Boston for treatment	88
Deaths investigated	17
Disinfections (Tuberculosis 265, Smallpox 1)	145

CHILD HYGIENE.

Prenatal visits	162
Postnatal visits	5,679
Babies visited	1,582

Examinations — Licensed Minors.

Girls	208
Boys	178

BACTERIOLOGICAL AND CHEMICAL LABORATORIES.

Examinations for diagnosis and release	1,349
Examinations of milk (bacteriological)	666
Chemical examinations of milk	961
Examinations of ice cream	7
Chemical examinations of vinegar	104
Court cases	36
Fines	\$475
Examinations of water (bacteriological)	2

FOOD INSPECTION.

Animals inspected	3,072
Animals condemned	75
Parts condemned	182
Stores examined	1,199
Condemnations:	
Fish	285 pounds
Beef	446 pounds
Poultry	243 pounds
Pork	53 pounds
Fruit	3 bushels
Olives	50 quarts
Canned goods	30 cans
Peppers	50 quarts
Capers	50 quarts

SANITARY INSPECTION.

Nuisances reported	8,429
Number of inspections	10,451
Complaints investigated	804
Court cases	21
Fines	\$280

SUPERINTENDENT OF PEDDLERS.

Vehicles inspected	79
Numbers assigned	40

1587
3761-10
SEPTEMBER, 1915

MONTHLY BULLETIN

HEALTH DEPARTMENT

OF THE

CITY OF BOSTON



FRANCIS X. MAHONEY, M. D., *Commissioner*

STATISTICS FOR 1914.

Population				750,768
Births (registered)	19,672	Birth-rate		26.20
Deaths	11,831	Death-rate		15.76

Of these total deaths 10 per cent were nonresidents.

BOSTON
HEALTH DEPARTMENT
CITY HALL ANNEX

1915

MONTHLY BULLETIN

OF THE

HEALTH DEPARTMENT OF THE CITY OF BOSTON.

FRANCIS X. MAHONEY, M. D., *Commissioner of Health.*

All communications relating to this publication should be addressed to BULLETIN
OF THE HEALTH DEPARTMENT, BOSTON.

BOSTON, SEPTEMBER, 1915.

TYPHOID FEVER.

Cause of the Disease.

Typhoid fever is caused by a tiny bacillus or germ called the "typhoid bacillus," and also called the *Bacillus of Eberth*, after the scientist who first worked with it and proved that it caused this disease. Since this germ is the only cause of typhoid fever it may easily be seen that each person who contracts the disease must do so by taking the typhoid bacillus into his system.

Method of Infection.

The typhoid bacillus usually finds its way into the system through the mouth either by infected food or drink or by the placing of material infected with typhoid germs into the mouth.

Course of Infection.

After entering the mouth the bacilli pass through the stomach unharmed and attach themselves to the inner walls of the intestines where they increase tremendously in number. They find their way early into the blood stream and the poisons they give off cause fever and prostration.

The bacilli also make their way through the kidneys to the bladder and they find the urine especially suited to their growth, so that often the urine of a typhoid patient is infective on account of the millions of typhoid bacilli it contains.

How the Disease is Spread.

The disease is always communicated from one person to another because of careless or improper disposal of the feces

or urine of the infected person. It is revolting to think that such methods of infection are possible, but it has been definitely proven that typhoid fever is spread only by taking into the system of the susceptible person infected material from the excreta of one who carries the germs.

Persons suffering from this disease pass off in their urine and feces incredible numbers of living typhoid bacilli which, if not destroyed, are able to exist for some time outside the human body. Many epidemics have occurred because of careless disposal of this material.

Contagion by Water.

The refuse of privies near or over streams contaminating the water supply of a large city might easily cause a widespread outbreak, and in country places wells have often become infected through being placed so near privies as to receive drainage from them. This water would not only infect those who drank of it but if used to wash or rinse milk cans or bottles might also infect the milk.

Contagion by Milk.

Many outbreaks of typhoid fever have been traced to milk which has become infected because some person who milked the cows, washed the cans, handled or tasted the milk, was either ill himself with typhoid fever or was closely associated with someone who was so afflicted. Milk is an ideal food for the germs and they multiply in it very rapidly, so only a small infection at first is necessary to cause much trouble.

Flies.

Flies, if they have access to typhoid excreta, may carry the infection to foodstuffs upon their feet, and in country places this is a great source of danger. In well sewered cities, however, it is probably a negligible factor in the spread of typhoid.

Contact Infection.

Contact infection is a term applied to cases of the disease contracted by persons in the immediate vicinity of the patient through lack of proper care.

Walking Typhoid.

The cases of those slightly ill may not be recognized as typhoid fever and they may continue their usual occupations even though feeling "slightly under the weather." Such cases are

far more likely to spread the disease to others since they are coming in contact with many people and also because they are ignorant of the cause of their own illness and often take no precautions.

Typhoid Carriers.

After a person recovers from typhoid fever he may still for a long time be a host for the germs of the disease and pass them off in his excreta; such a person is called a typhoid carrier. He may possibly have had the disease so slightly as not to recognize it and still for years be a source of danger to others. Typhoid Mary of New York City is the most noted of such cases. As a cook, passing from family to family, she was continually followed by cases of illness and by deaths from this disease in the families of her employers. She was found to be a carrier of virulent typhoid germs and was isolated by the city authorities. Several outbreaks on dairy routes have been traced to carriers among those who handled the milk.

Prevention of Typhoid. Anti-Typhoid Vaccination.

Within a few years it has been discovered that persons may be protected from typhoid fever through inoculation with a killed culture of the bacilli. This process is called anti-typhoid vaccination. It has been thoroughly tested in the United States army and indeed is in practical use in all the armies of Europe. It has proven a sure protection against the disease, and whereas formerly it was not unusual in campaigns for more soldiers to die from typhoid than from wounds, typhoid fever is now practically absent in armies protected by inoculation.

Precautions in the Care of Typhoid Patients.

Every care should be taken for the destruction of all infected material. The discharges before being disposed of should be thoroughly mixed with strong disinfectants.

Keep on hand a solution of the best fresh chloride of lime (one-half pound to a gallon of water) in a jug well corked, and put one-half pint or more of this solution into the vessel immediately before it is used to receive the discharges of the patient. The discharges should always be well mixed and covered with the disinfecting solution, and remain for thirty minutes before being removed.

The same disinfectant should be freely used in all wash bowls, sinks, water-closets and slop-hoppers. Vaults and cesspools, if used, should receive large quantities of dry chloride of lime.

All clothing, bed linen, etc., which comes in contact with the patients should be put into a disinfecting solution of corrosive sublimate (one drachm of corrosive sublimate and eight drachms of common salt to each gallon of water — 1 in 1,000 — in a wooden vessel marked “Poison”) and then boiled for one-half hour.

All dishes and other utensils used by the patient should be kept separate and boiled after each use.

The attendant should mingle as little as possible with others; she should wear a gown or apron while in the sick room. She should carefully disinfect her hands after each attendance on the patient.

General Precautions.

There are a few precautions which should be taken by all and which protect not only from typhoid fever but also from other contagions.

Water.— Do not drink water from unknown wells or streams. If use of questionable water becomes necessary it should be boiled.

Milk.— The only safe milk is a properly heated milk. Buy a supply you know to be thoroughly pasteurized or pasteurize it yourself before using.

Personal Hygiene.— Always cleanse the hands after visiting the toilet or before eating. Never put the fingers into the mouth (such habits as moistening the fingers with the tongue when turning leaves of books, etc., should be avoided).

Do not use utensils, etc., common to others, such as the common drinking cup or the roller towel.

Prophylaxis.— If exposed to typhoid take the anti-typhoid inoculation.

The Health Department gives the anti-typhoid inoculation free to citizens who desire it and also makes the Widal test when specimens are submitted.

TYPHOID FEVER “CARRIERS.”

At this time of the year especially, great care should be exercised by those recovering from typhoid fever since this is the period of the year when most of the infection occurs. People who have not suffered from this disease should avoid coming in contact with “carriers” either directly or indirectly.

Patients recovering from typhoid fever may be “carriers” in that they may exude the germs of this disease in great

numbers in the discharges from the bowels and bladder. A recovered typhoid fever patient may appear as well as ever and feel in the best of health, yet he may carry infection for months and even for years, as was evidenced in the cases of Typhoid Mary and Typhoid Anna. The history of these cases showed that they carried infection into every household where they were employed and this covered a period of years.

People get typhoid fever by eating or drinking infected foodstuffs, milk and water. This infection is caused by germs in the discharges of patients which find their way into foodstuffs of others. Unclean hands and personal habits on the part of a typhoid "carrier" may pollute articles or utensils of food. Cooks, waiters and other employees of hotels and restaurants, as well as employees on dairy farms and handlers of milk, who have recovered from typhoid fever are especially dangerous, since they are in direct contact with the food supplies of the community.

The minute particles from body discharges which infect food and drink are not detected by our senses when mixed with the food that is to be consumed. Such particles may cling to the hands, shoes and lips and readily cause infection of foodstuffs. Milk infected at a dairy farm in the country has been known to cause typhoid in every family in the city that partook of it although the original source of infection was hundreds of miles away.

If suspicious of your milk, pasteurize it; of your water, boil it; of your food, cook it thoroughly. Avoid contact with persons who are recovering from the disease or who are "carriers." Cleanliness should be the watchword. Clean food, clean water, clean milk and cleanliness of persons and surroundings should be the aim at all times.

OPHTHALMIA NEONATORUM.

Ophthalmia neonatorum, commonly referred to as "cold in the eyes," or "babies' sore eyes," may be a serious, dangerous and communicable affliction.

It is preventable and curable if treated early.

This is not a rare or unusual disease and is caused by germs getting into the baby's eyes during or soon after birth. The eyes become red and swollen and contain pus, and if not given immediate treatment the baby in two or three days may become totally blind.

This is the most destructive of all eye troubles.

The attention of physicians and nurses is respectfully called to the following sections of chapter 251:

The Board of Health calls special attention of physicians and nurses to those parts of sections 49 and 50 which relate to the reporting of cases of sore eyes in infants under two weeks of age.

SECTION 49. . . . Should one or both eyes of an infant become inflamed, swollen and red, and show an unnatural discharge at any time within two weeks after its birth, it shall be the duty of the nurse, relative or other attendant having charge of such infant to report in writing within six hours thereafter, to the board of health of the city or town in which the parents of the infant reside, the fact that such inflammation, swelling and redness of the eyes and unnatural discharge exist. On receipt of such report, or of notice of the same symptoms given by a physician as provided by the following section, the board of health shall take such immediate action as it may deem necessary in order that blindness may be prevented. Whoever violates the provisions of this section shall be punished by a fine of not more than one hundred dollars.

SECT. 50. If a physician knows that a person whom he is called to visit is infected with smallpox, diphtheria, scarlet fever or any other disease dangerous to the public health, or if one or both eyes of an infant whom or whose mother he is called to visit become inflamed, swollen and red, and show an unnatural discharge within two weeks after the birth of such infant, he shall immediately give notice thereof in writing over his own signature to the selectmen or board of health of the town; and if he refuses or neglects to give such notice, he shall forfeit not less than fifty nor more than two hundred dollars for each offence.

Outfits for taking cultures from the eyes will be found at all of the culture stations, and further information may be obtained from the Health Department.

NOTES.

The Illinois Central Railroad has requested the State Board of Health to furnish it with five hundred packages of anti-typhoid serum for the inoculation of employees of the system. It would be well if all railroad and steamboat companies saw to it that employees connected with the dining service on trains and steamboats were inoculated against typhoid.

The Commissioner of Health of Chicago has requested all parents to have their children examined by the family physician

before beginning the school year. This helps the medical inspection of school children immeasurably.

Surgeon-General von Schjerning of the German Army reports that typhoid fever among the troops in the western theater of war is very rare owing to the use of sterilized water and anti-typhoid inoculation.

Sir Frederick Treves, the well-known London surgeon, in speaking before the Royal Society of Arts said that the results achieved by inoculation against typhoid fever in the British expeditionary force have been "positively astounding."

The medical inspection of school children in the Boston schools carried on by this department, pioneer of this work in the United States since 1894, has been taken over by the School Committee. Dr. William H. Devine has been appointed director of school physicians and he will supervise the work in the schools done by the forty school physicians and forty-six nurses.

Thus far this year nearly thirteen per cent of the deaths occurring in Boston are of nonresidents. This is due to the fact that Boston is the largest city in the New England States, that it draws on a metropolitan area containing more than a million and a half of people, and that it has the best hospital facilities in the East.

Boston inside a 50-mile radius compared with other principal American cities stands second only to New York in the great mass of people served commercially.

Up to September 1, 1915, the deaths from typhoid fever in this city were little more than half of what they were at the same date last year.

In 1898, 2,000 cases of typhoid fever developed among the 10,000 soldiers encamped in Florida, while in 1911 of the 12,801 soldiers at the maneuvers in Texas, all vaccinated

against typhoid, only one case developed. At the present time vaccination against typhoid fever is compulsory in both the army and navy.

Successfully inoculated persons are perfectly protected against typhoid infection. The period of protection lasts from two to three years or more.

Of the 70,000 blind persons in the world (registered) 10 per cent are blind as a result of ophthalmia neonatorum and about 30 per cent of all the blind children in the schools maintained for blind children in this country owe their blindness to gonorrheal ophthalmia.

FIFTEENTH CENTURY PENALTIES.

Many are of the opinion that the agitation for "pure food" is of modern origin, but this view is dispelled by a London decree, issued in 1481. Consideration of the problem at that period led to the promulgation of penalties by comparison with which present day punishments may at least be deemed mild. This should be a subject of consolation to those inclined to find fault with what they believe to be the severity of the laws of this age. It was directed that "a funnel shall be placed in the mouth of any man or woman convicted of selling watered milk, and the said watered milk shall be poured down the funnel until such time a doctor shall declare that the culprit cannot swallow any more without danger of death."

A dealer in adulterated butter was doubly impressed with his shortcomings. He was placed in a pillory, where some of the same butter was pressed on his head; he was then left there until the butter was melted by the heat of the sun. No record appears as to the feelings of individuals to whom this latter punishment was meted out in the winter season.

DUSTING AND SWEEPING.

When sweeping and dusting, proper ventilation is essential. Floors that are treated with a wax or paraffin mixture hold down the dust. Rugs are more sanitary than carpets in that they allow proper outdoor cleaning and exposure to the sun.

In dusting and sweeping rooms, as little dust as possible should be raised, since dust is prejudicial to health. Cloths that are

used for this work should be dampened, and when the dusting is completed rinsed in water. Feather dusters and dry cloths should never be used. If a room is carpeted scatter small pieces of damp newspaper over the surface of the carpet before sweeping; these bits of moist paper hold the dust. A damp mop is useful when large floor areas are to be covered.

Dust.

Dust is harmful when it is excessive in amount and irritating in its nature. It is especially injurious when its presence is constant and the individual susceptible. It often irritates and inflames the respiratory passages and may cause destruction of lung tissue. Dust prepares the way for organisms that may cause colds, catarrh, influenza and pneumonia. If the tubercle bacilli are in the dust there lies the risk of the disease entering the lungs of the individual breathing such dust. People having tuberculosis should remember these facts and at all times be careful and considerate of others. Street dust is difficult to avoid yet we always try to escape it. House dust is more harmful than street dust since it is more apt to contain disease-breeding bacteria and is not so noticeable as outside dust.

REPORTING OF BIRTHS.

HEALTH DEPARTMENT,
OFFICE OF THE COMMISSIONER.

To each physician in Boston the following notice has been sent:

IMPORTANT NOTICE.

September 24, 1915.

DEAR DOCTOR,—Your attention is called to the following:

AN ACT RELATIVE TO REPORTS AND RECORDS OF BIRTHS. (ACTS OF 1912, CHAPTER 280.)

SECTION 1. Physicians and midwives shall within forty-eight hours after the birth of every child in cases of which they were in charge, mail or deliver to the clerk or the registrar of the city or town in which the birth occurred a notice stating the date and place of birth, giving the street number, if any, the number of the ward in a city and the family name. Failure to mail or deliver the said notice shall be punished by a fine not exceeding twenty-five dollars for each offense.

The reason for calling your attention to this law is that you may have all births which you have attended to date reported to the City Registrar of Boston, as after October 1, 1915, if

any birth is found not reported in accordance with the above statute, the physician in charge will be prosecuted.

Respectfully yours,

FRANCIS X. MAHONEY, M. D.

Health Commissioner.

E. W. MCGLENEN,

City Registrar.

TO STOREKEEPERS.

A copy of the following letter is being delivered to all storekeepers in Boston handling foodstuffs.

HEALTH DEPARTMENT,

OFFICE OF THE COMMISSIONER,

CITY HALL ANNEX, September 24, 1915.

To the Storekeepers of Boston:

DEAR SIRS,— You are hereby notified that the use of newspapers for the purpose of wrapping any article of food is in violation of Section 5 of the "Regulation for the Covering of Foodstuffs."

This section reads as follows:

SECTION 5. The use of unclean paper for the wrapping of articles of food is prohibited.

Yours respectfully,

F. X. MAHONEY,

Health Commissioner.

SUMMARY OF VITAL STATISTICS.

Boston had 1,018 deaths reported in the five weeks ending October 2, against 1,033 in the corresponding period last year, and a death rate of 14.59 against 14.97 last year.

Deaths of nonresidents reported numbered 150 against 143 last year.

Of deaths from reportable diseases the principal decreases were:

Tuberculosis (all forms)	14
Typhoid fever	5

and the principal increases were:

Whooping cough	8
Diphtheria	7

Other important differences were as follows:

September (five weeks), 1915, decreases compared with corresponding period of 1914:

Organic diseases of heart, endocarditis and nephritis	16
Dysentery	5
Premature birth	5
Puerperal diseases	4

September (five weeks), 1915, increases compared with corresponding period of 1914:

Other causes	17
Diarrhea and enteritis (under 2 years)	8

There were 12 more deaths under 1 year, 35 more under 5 years and 18 less over 60.

Deaths under 1 year reported from January 2 to October 2 numbered 1,522 against 1,500 for the corresponding period last year.

The total number of 1915 deaths reported up to noon October 3 was 9,040 against 8,915 in the same period last year.

The Following is a Summary of the Work done by the Different Divisions in the Department for the Five Weeks Ending October 2, 1915.

MORTALITY REPORT FOR THE WEEK AND SAME PERIOD IN 1914.

	1915.	1914.
Total deaths	1,018	1,033
Nonresidents	150	143
Rate	14.59	14.97
Corrected rate	12.44	12.89
Deaths under 1 year	250	238

NUMBER OF CASES AND DEATHS FROM COMMUNICABLE DISEASES.

	Cases.	Deaths.
Diphtheria	209	15
Scarlet fever	99	0
Measles	58	0
Typhoid fever	67	3
Whooping cough	214	14
Tuberculosis	250	79

CENTRAL DIVISION.

Legal notices voted	754
Forcible removals	3
Premises ordered to connect with sewer	1
Stable hearings	2
Building ordered removed	1
Prosecution authorized	1
Premises vacated	5
Hearings	6

Licenses.

Permit to reoccupy	1
Grease	1
Stable	1
Dump	2
Manicure	13
Hens	51
Milk	103
Stable permits revoked	2

COMMUNICABLE DISEASES.

Number of visits by medical inspectors	1,141
Number of visits by nurses	1,677
Antitoxin given	28
Anti-typhoid treatment	22
Vaccinations	1,300
Deaths investigated	23
Disinfections	153
Vaccination certificates	1,357
Physical examinations	750
Cases brought to Boston for treatment	86

CHILD HYGIENE.

Prenatal visits	91
Postnatal visits	6,849
Babies visited	1,516

Examinations — Licensed Minors.

Girls	569
Boys	593

BACTERIOLOGICAL AND CHEMICAL LABORATORIES.

Examinations for diagnosis and release	1,854
Examinations of milk (bacteriological)	690
Bacteriological examinations of ice cream	33
Chemical examinations of milk	1,768
Chemical examinations of butter and cheese	10
Chemical examinations of vinegar	39
Chemical examinations of ice cream	10
Chemical examination of flour	1
Chemical examination of jelly-roll	1
Chemical examination of sausage	1
Court cases	28
Fines	\$995

FOOD INSPECTION.

Animals inspected	6,441
Animals condemned	40
Parts condemned	515
Stores examined	1,936
Condemnations:	
Beef	1,650 pounds
Poultry	208 pounds
Chopped meats	72 pounds
Lamb	142 pounds

Condemnations:

Bologna	2 pounds
Sausage casings	300 pounds
Frankforts	10 pounds
Smoked shoulder	5 pounds
Hearts	10 pounds
Lungs	14 pounds
Canned mackerel	12 cans
Macaroni	100 pounds
Berries	4 boxes
Canned goods	3 cans
Pork	155 pounds
Veal	936 pounds
Liver	33 pounds
Turkey	30 pounds
Ham	2 pounds
Sausages	5 pounds
Fish	683 pounds
Scallops	23 gallons
Eggs	15 dozen
Plums	10 baskets
Potatoes	31,860 pounds

SANITARY INSPECTION.

Nuisances reported	6,524
Number of inspections	12,888
Complaints investigated	988
Court cases	5
Fines	\$15

SUPERINTENDENT OF PEDDLERS.

Vehicles inspected	24
Numbers assigned	46
Licenses granted	67
Licenses renewed. (To remove grease, bones, etc.)	0

DAIRY INSPECTION.

Total number of inspections	1,071
Total dairies excluded	197
Total dairies readmitted	82
Cows inspected	7,494

OCTOBER, 1915

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MONTHLY BULLETIN

HEALTH DEPARTMENT

OF THE

CITY OF BOSTON



FRANCIS X. MAHONEY, M. D., *Commissioner*

STATISTICS FOR 1914.

Population	750,768		
Births (registered)	19,462	Birth-rate	25.92
Deaths	11,831	Death-rate	15.76
Of these total deaths 10 per cent were nonresidents.			

BOSTON

HEALTH DEPARTMENT

CITY HALL ANNEX

1915

MONTHLY BULLETIN

OF THE

HEALTH DEPARTMENT OF THE CITY OF BOSTON.

FRANCIS X. MAHONEY, M. D., *Commissioner of Health.*

All communications relating to this publication should be addressed to BULLETIN
OF THE HEALTH DEPARTMENT, BOSTON.

BOSTON, OCTOBER, 1915.

STREPTOCOCCI AND DISEASE.

For convenience of description bacteria have been grouped according to form into three families — the bacilli, cocci and spirillæ. The cocci are spherical in shape and under a high power lens each appears about like the dot of an “i.”

The family of cocci is made up of many species but they have been roughly divided into two groups, (a) the staphylococci, which when growing are arranged in clusters sometimes compared to bunches of grapes; (b) the streptococci, which develop in chain-like formations.

Each group contains both harmful and harmless organisms.

The streptococci are very aggressive as invaders of the human body and are known to be the active cause of many conditions of illness. They are also frequently found as secondary invaders complicating troubles which were caused by other germs and finally they are always found in certain other diseases, the causative factors of which are unknown.

Sore Throat.

Perhaps the most common and annoying condition traceable to this germ is the ordinary sore throat or tonsillitis.

Streptococci are often present in normal throats, like enemies lying in wait, the vigor of the healthy body being sufficient to keep them under control. Any weakening of that vigor by excesses, exposure or exhaustion is quickly taken advantage of and the inflammation set up by the invading organisms causes the sore throat.

The germs tend to increase in virulence as they invade the body tissues and if by chance, after causing illness in one person they come in contact with another person's tonsils, they may be able to overcome his resistance much more readily. Such sore throats are quite contagious.

It must be remembered that the streptococci are but one out of several species of germs which cause soreness of the throat. This is a favorite site of infection and many of the contagious diseases caused by other germs such as diphtheria, measles, etc., begin with sore throats.

Septic Sore Throat.

There have been several epidemics of a severe and unusual type of streptococcus sore throat to which the name "septic sore throat" has been applied. Most of these outbreaks have been traced to infected milk supplies. Many cases would appear simultaneously on the route of one dealer and the streptococci, not content with causing annoying throat troubles, would often go further into the body and set up serious complications by infecting glands or joints, by causing peritonitis and even infecting such organs as the heart and kidneys. These complications have often caused death.

Milk and Streptococci.

The question of the relation of milk supplies to this disease deserves serious consideration. There are two ways in which the milk might become infected.

First.—Garget, or inflammation of the udder in cows, is frequently caused by streptococci, as may be easily proven by microscopic examination of the milk produced by such animals. It is logical to suppose that the organisms capable of causing this severe inflammatory reaction in the cow might also cause an outbreak of disease among those drinking the milk. Careful investigation, however, seems to indicate that the streptococci of garget are not always identical with those causing septic sore throat.

Second.—The germs may be introduced into the milk through the carelessness of some milkman or other person handling it, who himself is suffering from a streptococcus infection. These germs multiply rapidly in milk unless it is kept quite cold so that the introduction of a few organisms may be sufficient to infect a community.

Other Streptococci Infections.

Erysipelas is caused by streptococci, the organisms being most abundant in the spreading border of the lesion. Pneumonia is sometimes caused by streptococci, as is also ulcerative endocarditis, a serious affection of the valves of the heart.

They are also the causative factors in puerperal septicemia or child-bed fever, a disease common and fatal before the days of asepsis. There is also evidence that the streptococcus is the causative factor in acute articular rheumatism. In tuberculosis after the victim has been weakened by the long fight with tubercle bacilli it is usually the streptococcus that steps in and deals the final fatal blow.

It sometimes cooperates with the diphtheria bacillus in its attack, a serious combination of bacterial foes and one much dreaded by the physician.

On the whole the case against the streptococcus as an enemy of mankind is thoroughly proven by the activities already enumerated. It is in addition always found associated with scarlet fever and by some has been thought to be the causative factor in this dreaded disease.

Preventive Measures.

Special measures against streptococcus infection have not been very successful. Anti-streptococcus vaccines and sera have been thoroughly tried out but with no marked beneficial results.

The best protection seems to be provided by good general and personal hygiene, by avoiding excesses and in this way keeping the body in a state of active resistance against germ invasion, by taking precautions in using a safe milk supply, by avoiding the use of towels, cups, etc., common to the use of others, by avoiding the common habit of putting the fingers into the mouth and by the isolation by the health authorities of such persons as are infected with virulent streptococci.

TUBERCULOSIS.

Directions for Consumptives and Those Living With Them.

Consumption is caused by the bacillus of tuberculósis, a particular form of germ. This germ grows in the lungs of the consumptive patient in enormous numbers, and the material (called sputum or spit) coughed up by the patient contains a great many of them. When this sputum is allowed to dry in the room, it may become powdered and be blown about in the air. A person breathing this air in the room may take the germs into their lungs and after a time become consumptive.

This is the first danger to be guarded against. The patient should not spit upon the floor, carpet, wall, stove or anywhere except into a cup kept for the purpose. If paper or pasteboard cups are used the cup with its contents should be burned and a new one substituted. This is the best plan. Handkerchiefs used by the patient should be boiled in water for half an hour by themselves and then washed each day. It is better to use worthless cloths and burn them instead of boiling and washing. When away from home the patient should spit into the handkerchiefs or cloths. These should not be carried loose in the pocket but in a tobacco pouch or other waterproof receptacle.

Great care should be taken by the patient to prevent the hands, face and clothing from becoming soiled with the sputum. The lips are particularly apt to become smeared with the sputum, and the hands also, when handkerchiefs are used. Both face and hands should be frequently washed with hot water and soap. The kissing of consumptive children is dangerous, especially to children.

The second source of danger is in the fine spray thrown off by the patient from the mouth in talking, coughing, laughing, sneezing, and spitting. The germs are present in this spray, which floats about in the air and settles upon furniture, etc.

The danger is not so great as from the dried sputum, but persons not having consumption run the risk of infection on this account if they remain long in a room used by a consumptive patient. No consumptive patient should sleep in the same room with anyone else.

The third source of danger is from clothing and knives, forks, spoons, plates, cups, etc., used by the patient.

After use these should all be boiled in water. The patient's clothing, nightrobes, sheets, pillowslips, etc., should not be mixed with the general wash of the family, nor sent to a public laundry, but boiled for half an hour and then washed, apart from other clothes, at home. In order to avoid tuberculosis infection from the cow, no milk should be drunk which has not been pasteurized (heated to a temperature of 145 degrees for a period of thirty minutes), unless it is certain that it comes from cows recently tested for tuberculosis and proven free from the disease.

Consumption is by no means always fatal and in the earlier stages recovery often takes place. The room occupied by the patient should be as large, airy and well lighted as possible. Carpets, curtains and upholstery should not be used. If already in use they should be removed and disinfected. Floor

rugs should be frequently taken up and exposed to sunlight for a day and then swept or beaten in the open air. They should not be swept or beaten in the house. The floors, wood-work, furniture, windows, etc., should not be swept or dusted but wiped with a cloth wet in a disinfectant solution.

If these directions are followed but little danger of infection to the family will exist and the patient will be in good circumstances for recovery. The patient should have nourishing food, plenty of fresh air and sunlight, and occupation suited to the general condition of the disease. Fresh air means cool, moving air. Recent investigations have shown that the worst effects of bad ventilation are due to overheating and stagnation. The temperature of school rooms and living rooms should never exceed 70 degrees. Thorough ventilation of bedrooms is absolutely essential. The bedrooms should be the best lighted, best ventilated rooms in the house. The windows should be kept wide open, and wherever possible it is best to sleep out-doors.

After the removal of a patient from the house or room, disinfection should be performed by the householder as indicated above. The householder must notify the Health Department of the removal of the patient within twenty-four hours.

FOOD INSPECTION.

Score Card for Stores.

Beginning the first of November the score card system of inspecting establishments where food is prepared, handled and sold will be inaugurated. The department has had this step in mind for a long time, but owing to the great variety of stores it was extremely difficult to arrange a score that would be suitable for all these places.

When we consider that there are over 6,500 of these establishments in Boston and that the business carried on varies from the manufacture of candies to the slaughtering of poultry it will be readily seen what a difficult task it is to get up a score card system that would be comprehensive, all embracing and concise and yet fair to the shopkeeper.

These scores will be made out in triplicate, the original being filed in this office for record, the duplicate left at the establishment, and the triplicate kept by the inspector making the score. This department requests all shopkeepers to post their scores in a conspicuous place, so that the public can see how

their store stands with the Health Department. It is hoped that in this manner the defective stores will be speedily brought into a satisfactory condition. (For copy of score, see page 9.)

Slaughtering Establishments.

The department is making a daily inspection of the licensed chicken slaughtering houses. In many of these establishments operations have been carried on in an insanitary manner partly owing to faulty structural conditions, partly to lax methods of employees. In all of these places the department has insisted that metal troughs be installed for receiving blood and feathers and that the floor, walls and ceiling of the killing room be kept clean at all times. The practice of sending out to the trade improperly plucked poultry has been stopped. The department realizes that ideal conditions are difficult to maintain in these establishments but insists that they be operated under the best sanitary conditions.

Newspapers for Wrapping Purposes.

The practice of wrapping food articles in newspapers which was general throughout the city has been discontinued, following the order of the Commissioner forbidding such use. This is exceedingly gratifying and was made possible only through the fullest cooperation of the shopkeepers.

“Canner” Cattle.

It is at this time of year that an extensive business is done in so called “canner” cattle. The meat of these “canners” is boned out and used for bologna and mince meat. A very thorough inspection of this class of meat product is being made by inspectors of this department so that no meat that is unwholesome or unfit for food shall be placed on the market.

DAIRY INSPECTION.

Boston obtains its milk supply from about 8,500 dairies which are scattered over Maine, New Hampshire, Vermont, Massachusetts, Connecticut and Eastern New York. Of these states, Connecticut and Massachusetts are the smallest contributors of dairy products to Boston, and Vermont the largest, with Maine second, but rapidly becoming a close competitor of Vermont in the dairying line.

The Division of Dairy Inspection sends out eight inspectors to visit these dairy farms and while the work of the inspectors

NAME
ADDRESS
DISTRICT

KIND OF STORE
DATE
INSPECTOR

EQUIPMENT	SCORE		METHODS	SCORE		
	Perfect	Allowed		Perfect	Allowed	
Construction:			Cleanliness:			Score for equipment.....multiplied by one equals.....
Floors.....	3		Floors.....	5		Score for methods.....multiplied by two equals.....
Walls.....	2		Walls.....	2		Total to be divided by three to obtain final score.....
Ceilings.....	1		Ceilings.....	2		
			Doors.....	1		
Arrangement:			Windows.....	1		
Proper rooms.....	4		Good order.....	1		
Conveniences.....	3		Free from odors.....	2		
			Free from flies and other insects.....	6		
(C) Light.....	5		Cleanliness:			
(C) Ventilation.....	5		Ice boxes.....	10		
Screens.....	5		Counters and show cases.....	5		
Cellar.....	3		Sinks.....	5		
			Utensils.....	10		
Plumbing:			Employees.....	5		
Kind						
Quality	10		Food articles:			
Location	10		Condition.....	15		
Condition			Storage.....	10		
			Handling.....	5		
Ice boxes.....	10		Cleanliness.....	5		
Drainage.....	4					
Counters and show cases.....	5		Waste receptacles:			
Utensils.....	5		Adequate.....	5		
Hot water facilities.....	15		Condition.....	5		
Cold water facilities.....	10					
Total.....	100		Total.....	100		

REMARKS:

(Under this heading denote unusual conditions as sleeping accommodations, the presence of domestic animals in or about shop or rooms, non-compliance with regulations and infractions of statute laws.)

among the farmers is of necessity corrective, it is intended in the main to be educational. When a farmer is required to make alterations, in order to conform to the regulations of the Department of Health, either in the equipment of his dairy or the methods he employs, it is the duty of the inspector to point out to the farmer that instead of tending to make his task a hard one or to lessen his profits he will be increasing the value not only of his product but also of his dairy farm. Few farmers will return to the old fashioned method of handling milk once they have been accustomed to modern sanitary methods.

The task of the dairy inspector is often a difficult one, as, in addition to the technical knowledge which his work requires, he must be possessed of considerable tact in order that the hearty cooperation of the farmer may be secured, without which no lasting improvement in dairy sanitation may be expected.

CONSUMPTION OF MILK IN BOSTON.

Bostonians consumed in 1914 different types of milk as follows:

	Per Cent.
Certified (the safest raw milk)	1.00
Inspected (a high grade milk)	3.50
Pasteurized (the safest ordinary milk)	80.00
Raw (ordinary milk)	15.50

The use of the highest grades and of pasteurized milk is increasing annually. Consumers who purchase ordinary milk should give the preference to the pasteurized variety. It is an additional health safeguard.

CLEANING.

For the past few years excellent work has been done by the so-called "spring cleaning." Yards, cellars and the interiors of houses have been cleaned of the filth accumulations of a year. Walls have been painted and papered and ceilings whitewashed, floors scrubbed and many oiled. This of course is commendable work, but this cleaning may be improved upon. This yearly accumulation should never happen. The Health Department has always believed that at least every day or week should be clean-up time. This of course does not take place. We might request that a general cleaning be made at this time of the year.

Dirt includes rubbish, manure and organic wastes. While

dirt may not be the source of infection it breeds and harbors mice, rats, flies, fleas and vermin, and favors conditions which favor the spread of disease. Backyards, cellars, garrets, storerooms should be cleaned of their rubbish before the winter to prevent such breeding of animal and insect life. Manure should be removed often and not kept in bins or stored. If better care were taken of manure and rubbish we would have less flies in the spring and summer months and consequently fewer carriers of infection. Experience has taught that cleanliness offers a protection against disease; cleanliness of persons, cleanliness of surroundings and cleanliness of food are excellent weapons with which to combat disease.

VENTILATION INDOORS.

Proper ventilation includes not only a constant current of air to replace that which is being vitiated, but that air must be pure air, free from smoke, gases, dirt or bacteria.

During the winter months it is necessary that we have proper ventilation in the places of amusement, factories, shops and homes. Deaths attributable to summer months, such as sunstroke, drowning, stomach and intestinal conditions, give way in winter to bronchitis, pneumonia, tonsillitis and tuberculosis, which are in a great measure due to personal contact in an infected atmosphere prevailing indoors where proper ventilation is likely to be lacking.

Avoid badly ventilated, overheated and overcrowded rooms. Proper ventilation does not mean that we should throw open all windows and doors and keep them so during the winter months and live without any heat. Proper ventilation may be maintained in heated living rooms and the temperature kept at a comfortable degree. It is becoming the custom to sleep in unheated rooms and with the windows open. The burning of candles, lamps and gas is not conducive to good health especially in places where proper ventilation cannot be maintained. Drafts should be avoided and constant supply of fresh air provided to take the place of that which has already been used.

The size and shape of a room may be a factor in proper ventilation. No matter how large a room may be if the supply of fresh air is not steady the air will become impure. On the other hand, no matter how small the room if sufficient ventilation is carried on the air continues pure. A lofty, unventilated room will in a short time, if occupied, become filled with

impure air. Floor space is more important to ventilation than height. With a modern system of ventilation you will breathe better air in many basement establishments than in stores and offices containing enormous floor space with high ceilings but lacking in proper ventilation. Air should be admitted and discharged through a number of openings rather than through a single opening; all such outlets and inlets should be kept clean.

In sleeping rooms it is of advantage to have windows open both at top and bottom. This gives an outlet for the impure air and an inlet for the pure air, so that the air of the room is constantly changing. Air is better when it circulates, has a relative humidity of 50 to 60 degrees, with an indoor temperature of about 68 degrees, and contains no visible floating matter such as dust, smoke or dirt, is free from gases, fumes and vapors, is not polluted, and is pleasant to breathe.

Sore throats, colds and many illnesses are caused by air that is too warm and too dry.

REGULATIONS.

HEALTH DEPARTMENT,
OFFICE OF THE COMMISSIONER,
BOSTON, October 29, 1915.

The Health Commissioner has this day *ordered* that the following regulations be adopted, the same having been made by virtue of the provisions of the Acts of 1912, chapter 155.

REGULATIONS FOR MANICURING, MASSAGING AND GIVING OF VAPOR BATHS.

No person shall perform manicuring, massaging or giving of vapor baths in the City of Boston unless licensed by the Health Commissioner. Each applicant must furnish a certificate from a duly licensed practitioner of medicine that he or she is free from any infectious or communicable disease.

The place of business, together with all furniture, shall be kept at all times in a cleanly condition.

Brushes and all other utensils used shall be sterilized after each separate use thereof and before being used on another customer.

All rubber and glass discs and appliances of a massage vibrator coming in contact with the skin in the process of massaging shall be thoroughly cleansed and sterilized after each operation and before being used on another customer.

Alum, or other material used to stop the flow of blood, shall be used only in powder form.

The use of powder puffs and sponges is prohibited. Powder shall be applied from gauze, absorbent cotton, or towel, which must be destroyed or relaundersed after each use.

The apartment in which manicuring, massaging or giving of vapor baths is performed shall not be used for sleeping purposes, and shall contain no furniture that could be adapted for such purpose.

Operators shall cleanse hands thoroughly immediately after serving each customer.

Any person practicing manicuring, massaging or giving of vapor baths, without a license in the City of Boston is liable to prosecution, and the license of any person who does not conform to the above regulations will be either suspended or revoked.

FRANCIS X. MAHONEY, M. D.,
Health Commissioner.

(The maximum penalty for noncompliance with the regulations of the Health Commissioner is \$20 for each offence.)

The following is a copy of the certificate which must be filled out by a physician before a license is granted.

HEALTH DEPARTMENT — CITY OF BOSTON.

HEALTH CERTIFICATE.

THIS CERTIFIES that.....
of.....Street,
engaged in the Practice of Manicuring, Massage, Giving of Vapor Baths, at
.....Street,
was examined on.....191.....,
and was found to be free from any infectious or communicable disease.
By.....M. D.,
Address.....

Identification Record.

Color of eyes..... Weight.....
Color of hair..... Height.....

NOTES.

During the last fiscal year there were condemned more than 299,000 cattle and about 70,000 swine in the United States on account of diseases (preventive). A tremendous saving in foodstuffs will be made when these diseases in cattle are eradicated.

In the city of Toronto no deaths have been recorded from typhoid fever for the summer months and for the first eight months of the year only three persons have died from this disease. Surely a splendid record.

All dining car and restaurant employees of the Pennsylvania Railroad are now physically examined every month instead of every three months as formerly.

Examinations will be held in the State House for the positions of nurse (female) in the Boston Health Department November 26. The salary is \$900 per annum.

Three health instructors (female) are to be appointed by the State Department of Health at salaries of \$1,200 per annum. For these positions an examination will be held in the State House November 22.

The Commissioner of Animal Industry has withdrawn the quarantine from Brighton and the public sale of cattle is again allowed.

The quarterly meeting of the Massachusetts Association of Boards of Health was held in this city October 28.

SUMMARY OF VITAL STATISTICS.

Boston had 793 deaths reported in the four weeks ending October 30, against 841 in the corresponding period last year, and a death rate of 14.20 against 15.23.

Reported deaths of nonresidents numbered 116 against 103 last year.

Of deaths from reportable diseases the principal decreases were:

Tuberculosis (all forms)	26
Diphtheria	9
Scarlet fever	4

and the principal increase was

Whooping cough	10
----------------	----

Other important differences were as follows:

Decreases:

Organic diseases of heart, endocarditis and nephritis	29
Diarrhea and enteritis (under 2 years)	18
Premature birth	14
Cancer	8
Diarrhea and enteritis (2 years and over)	8

Increases:

"Other causes"	50
Violent	5
Pneumonia	5

There were 17 less deaths under 1 year, 4 less under 5 years and 39 less over 60.

Deaths under 1 year reported from January 2 to October 30 number 1,671 against 1,666 for the corresponding period last year.

The total number of 1915 deaths reported up to noon, October 31, is 9,821 against 9,756 in the same period last year.

The Following is a Summary of the Work Done by the Different Divisions in the Department for the Four Weeks Ending October 30, 1915.

MORTALITY FOR THE FOUR WEEKS AND SAME PERIOD IN 1914.

	1915.	1914.
Total deaths	793	841
Nonresidents	116	103
Rate	14.20	15.23
Corrected rate	9.10	10.03
Deaths under 1 year	149	166

NUMBER OF CASES AND DEATHS FROM COMMUNICABLE DISEASES.

	Cases.	Deaths.
Diphtheria	206	7
Scarlet fever	87	1
Measles	69	1
Typhoid fever	73	5
Whooping cough	146	16
Tuberculosis	181	59

CENTRAL DIVISION.

Legal notices authorized	535
Forceful removals ordered	6
Prosecutions authorized	2
Regulation adopted	1
Stable hearing	1
Hearing	1
Lying-in-Hospital certified	1
Premises ordered vacated	10
Conferences	5

Licenses — Permits.

Milk	115
Dump	4
Manicure—Massage	41
Hens	120
Stable	4
Basement	1
Permit to reoccupy premises	2
Stable permit refused	1
Basement permits refused	9

COMMUNICABLE DISEASES.

Number of visits by medical inspectors	1,762
Antitoxin given	45
Deaths investigated	15
Physical examinations	702
Cases brought to Boston for treatment	49
Number of visits by nurses	2,247
Vaccinations	27
Vaccination certificates	13
School certificates	8
Disinfections for tuberculosis	17

CHILD HYGIENE.

Prenatal visits	91
Postnatal visits	3,850
Number of babies visited	954

Examination of Licensed Minors.

Girls	321
Boys	573

BACTERIOLOGICAL LABORATORY.

Examinations for Diagnosis and Release.

Diphtheria	1,245
Tuberculosis	338
Typhoid	208
Gonorrhea	221
Other examinations *	154
Bacteriological milk examinations	540

* Examinations of rats (89), Feces, for Typhoid Fever, Malaria, Paratyphoids, Ophthalmia, G. H., Organisms, T. B., K. L. vir. Vir. for Strep.

FOOD INSPECTION.

Live Stock Inspected at Brighton Abattoir.

Cattle inspected	695
Calves inspected	1,051
Swine inspected	3,284
Animals condemned, whole	52
Parts condemned	693 pounds

Inspection of Provisions — Articles Condemned.

Meats and Fish:		Miscellaneous:	
Poultry	248 pounds	Mustard	57 jars
Sausages	23 pounds	Peanuts	25 pounds
Bear meat	395 pounds	Canned goods	97 packages
Beef	1,084 pounds	Eggs	66 dozen
Pork	545 pounds	Butter	30 pounds
Lamb	79 pounds	Cheese	3 pounds
Bologna	4 pounds	Cauliflower	1½ bushels
Kidneys	9 pounds	Spinach	1½ bushels
Veal	505 pounds	Cantaloupes	1 crate
Lungs	10 pounds	Pears	1 peck
Plucks	50 pounds	Potatoes	2 bushels
Tongues	75 pounds	Cabbage	1 barrel
Pigeons	30 pounds	Onions	½ bushel
Mackerel	69 pounds	Tomatoes	5 bushels
Shredded fish	18 packages	Carrots	1 peck
Sword fish	15 pounds	Apples	1 peck
Finnan haddie	13 pounds	Melons	95
Miscellaneous:		Plums	5 pounds
Chow chow	5 bottles	Stores examined	2,018

DAIRY INSPECTION.

Dairies inspected	1,464
Dairies excluded	414
Dairies readmitted	9
Cows examined	13,057

MILK INSPECTION.

(Examinations as to Statute Requirements.)

Samples Examined:

Chemical examinations of milk	1,360
Bacteriological examinations of milk	540
Bacteriological examinations of ice cream	21
Chemical examinations of vinegar	171
Chemical examinations of butter and cheese	9
Chemical examinations of ice cream	3
Number of court cases	28
Fines	\$340

SUPERINTENDENT OF PEDDLERS.

Licenses renewed to remove bones, grease, etc.	69
Numbers assigned	20
Vehicles inspected and approved	669

SANITARY INSPECTION.

New reports	1,024
New tenement-house reports	71
Legal notices	158
Reinspections	1,757
Nuisances reported	1,087
Complaints investigated	241
Court cases	7
Fines	\$30



3761
NOVEMBER, 1915

MONTHLY BULLETIN
HEALTH DEPARTMENT
OF THE
CITY OF BOSTON



FRANCIS X. MAHONEY, M. D., *Commissioner*

STATISTICS FOR 1914.

Population				750,768
Births (registered)	19,462	Birth-rate	25.92	
Deaths	11,831	Death-rate	15.76	
Of these total deaths 10 per cent were nonresidents.				

BOSTON
HEALTH DEPARTMENT
CITY HALL ANNEX
1915

"If medicine is to render its highest and best service the time must come when all citizens will seek a thorough physical examination once a year or oftener, and diseases should be prevented or detected while yet curable. In the past century fifteen years have been added to the average of human life, and a like addition could be secured were well established hygienic laws obeyed."

MONTHLY BULLETIN

OF THE

HEALTH DEPARTMENT OF THE CITY OF BOSTON.

FRANCIS X. MAHONEY, M. D., *Commissioner of Health.*

All communications relating to this publication should be addressed to BULLETIN
OF THE HEALTH DEPARTMENT, BOSTON.

BOSTON, NOVEMBER, 1915.

FREE WASSERMAN TESTS.

Beginning with January, 1916, the Bacteriological Laboratory of the Boston Health Department will be prepared to examine blood specimens by the Wasserman test for syphilis.

Tests will be made each Tuesday, Wednesday, Thursday and Friday.

Patients for whom the test is requested should be sent to the Laboratory, Room 1101, City Hall Annex, where the blood specimens will be taken.

History blanks will be mailed to any Boston physician on request, and each patient appearing at the laboratory must present one of these, carefully filled out and signed by his attending physician.

The laboratory will be prepared to receive these patients and to collect the blood specimens on Mondays, Tuesdays, Wednesdays and Thursdays, from 2 to 4 p. m., only.

Specimens will not be collected at any other time, nor will they be collected from patients coming without a carefully prepared history card. The data required is as follows:

* Patient's name.....Age.....Sex.....
Patient's address.....
Civil condition: Married.....Single.....Widowed.....
Provisional diagnosis.....
Syphilis acquired or congenital.....Active lesions.....
Stage { Primary..... Antisyphilitic { Number doses salvarsan.....
 { Secondary..... Treatment { Number doses neosalvarsan.....
 { Tertiary..... { Mercury pills, number months.....
 { Number mercury injections.....
Present treatment.....
Physician's name.....
Physician's address.....

This test, like all laboratory tests furnished by the department, is without cost to physician or patient.

* Initials in full will be accepted instead of name and address.

DIPHTHERIA.

The following is issued for the purpose of reminding all persons that greater care should be exercised to prevent the spread of this disease. Diphtheria is an infectious disease and may be easily communicated from person to person. The bacilli which cause the disease are usually very abundant in the mouth and nose of the patient. It may be conveyed directly in the act of kissing, coughing, spitting, sneezing; or indirectly by infected articles used, as towels, napkins, handkerchiefs, etc. The patient's fingers are constantly carrying the bacilli from the mouth and nose to whatever thing he touches and the danger of infection is from the patient direct and from things he has handled rather than from the air of the room, defective drainage of the house, etc. Diphtheria attacks all classes at all ages and at all seasons of the year. By preference it attacks children and those who are debilitated from exposure to filth, dampness or foul air from whatever source. Insanitary conditions through their weakening influence on the general health thus tend to lessen the person's resistance to the bacilli of the disease but can never of themselves cause it. When a case of diphtheria occurs in any family the sick person must be placed in a room apart from the other inmates of the house, be nursed, as far as possible, by one person only, and remain isolated or be taken to the hospital. All doubtful cases should be referred for diagnosis to the laboratory of the Health Department. The sick chamber should be well warmed, exposed to sunlight and well aired. Its furniture should be such as will permit of cleansing without injury, and all extra articles, such as window and table drapery, woolen carpets, upholstered furniture and all hangings should be removed from the room during the sickness. The physician and nurse, as a rule, should be the only persons admitted to the room.

Visitors to the infected house should be warned of the presence of a dangerous disease therein, and children especially should not be admitted. All clothing removed from the patient, nurse, or their beds, should be at once placed in a solution of corrosive sublimate (one drachm of corrosive sublimate and eight drachms of common salt to each gallon of water — 1 in 1,000 — in a wooden vessel marked "Poison") by the nurse before being carried through the house or handled by any other person. They may be soaked in this fluid for a convenient time and then boiled for one-half hour. It is

better not to use handkerchiefs for cleansing the nostrils and mouth of the patient, but rather soft rags, which should be immediately thereafter burned. Children in the family should not attend school or mingle with other children until the patient has wholly recovered, has yielded two successive negative cultures, all infected articles have been disinfected, and these facts certified by the Health Department. After disinfection the room and everything in it should be thoroughly aired. It should be borne in mind that there is more danger of contracting the disease from the patient, even after release, than from the room he has occupied. Although the two negative cultures indicate freedom from the bacilli they still remain in a small percentage of cases, and due care should be exercised accordingly.

IMPORTANCE OF EARLY USE OF DIPHTHERIA ANTITOXIN.

The Health Department desires again to call the attention of the profession to the great importance and necessity of the early use of antitoxin in all suspected cases of diphtheria. Many deaths from this disease that have been investigated recently show that physicians have depended on the laboratory findings for the diagnosis of this disease rather than on the clinical evidence that has been presented to them.

Antitoxin has been withheld from many cases for so long a period,—viz., sometimes for four or five days,—that death has intervened without the use of antitoxin. Any case that is suspicious enough to warrant the aid of cultural diagnosis should receive at the same time antitoxin treatment. The Health Department is anxious to cooperate with the medical profession in these cases, and will be glad to visit all suspected cases of diphtheria and to furnish aid in diagnosis, and, if necessary, administer the antitoxin treatment. Antitoxin has reduced the great mortality of former years from diphtheria, but during the past few years the deaths from this disease have increased in this city. Investigation has demonstrated that children have died in some cases without a physician being called, and in others that the administration of antitoxin has been delayed so long that it has been without avail for the cure of the disease.

A case recently investigated gives a history of a physician being called, case suspicious, and a culture made. Laboratory

reported negative. Culture taken the following day was reported to the physician as suspicious and request made for another culture. On the third day another culture was taken, and before a report could be made the child died. The case is but one of many that have come to the attention of the department. Early treatment can reduce the mortality of this disease to almost a minimum and many lives can be saved. However, to achieve this result the Health Department must have the cooperation of the profession. It is earnestly to be desired and expected that such cooperation shall be manifested, since, with the means for absolute control of diphtheria in our possession, practising physicians and the educated public are responsible if that control is not effectively applied.

When a case of diphtheria is reported to this department the following letters are sent out, one to the physician in attendance and the other to the head of the family.

HEALTH DEPARTMENT, MEDICAL DIVISION,
BOSTON, November 30, 1915.

DEAR DOCTOR:

John J. Jones, residing at 2347 Smith street, Boston, has been reported by you to this department as suffering with diphtheria.

The Health Department is ready to furnish the material for the antitoxin treatment to all persons that have been exposed. Will you kindly notify this department if you will give the necessary injections, or if you prefer, a physician from this office will administer the same.

Very truly yours,

THOMAS B. SHEA, M. D.,
Deputy Commissioner
in Charge of Medical Division.

P. S. If you wish a physician from this department to administer the antitoxin call Fort Hill 5100 and reverse the telephone charges.

HEALTH DEPARTMENT, MEDICAL DIVISION,
BOSTON, November 30, 1915.

DEAR SIR:

A case of diphtheria has been reported in your family. All children under fifteen years of age in your immediate family that have been exposed are liable to be infected with this disease and should receive immediately antitoxin treatment. The treatment is harmless and not painful.

The antitoxin treatment may be given by your own physician. If you do not desire your own physician to administer it, the Health Department will send a physician for this purpose, free of expense. Write or telephone Fort Hill 5100 (reverse the charge) and a physician will call.

Very truly yours,

THOMAS B. SHEA, M. D.,
Deputy Commissioner
in Charge of Medical Division.

DOSAGE OF ANTITOXIN IN DIPHTHERIA.

The attention of physician readers is called to the following table of the doses of antitoxin recommended in the treatment of diphtheria. The table was prepared by Dr. W. H. Park of the New York Health Department on the basis of extensive experimental and clinical studies. The recommendations have been indorsed by the Medical Board of the Willard Parker Hospital and by the diagnosticians of the Bureau of Preventable Diseases, and this has become part of the general department procedure. There is no advantage in excessive or repeated doses.

Dosage of Antitoxin in Diphtheria.

	Mild Cases.	Moderate.	Severe.	Malignant.
Infants, 10 to 30 pounds in weight (under 2 years of age).....	{ 2,000 units to 3,000 units	3,000 units to 5,000 units	5,000 units to 10,000 units	10,000 units
Children, 30 to 90 pounds in weight (under 15 years of age).....	{ 3,000 units to 4,000 units	4,000 units to 10,000 units	10,000 units to 15,000 units	15,000 units to 20,000 units
Adults, 90 pounds and over in weight.....	{ 3,000 units to 5,000 units	5,000 units to 10,000 units	10,000 units to 20,000 units	20,000 units to 40,000 units

Cases of laryngeal diphtheria, moderate cases seen late at the time of the first injection, and cases of diphtheria occurring as a complication of the exanthemata should be classified and treated as "severe" cases.

In all cases a single dose of the proper amount, as indicated in the schedule, is recommended. For immunizing purposes a dose of 1,000 units should be used.

It is recommended that the methods of administration be as follows:

Mild Cases.— Subcutaneous or intramuscular.

Moderate Cases.— Intramuscular or subcutaneous.

Severe Cases.— Intramuscular or subcutaneous or intravenous.

Malignant Cases.— Intravenous.

PLAGUE PREVENTION.

Bubonic plague is a disease common to man and rodents and once it becomes established in a community can be eradicated only by extreme measures because of the great difficulty of destroying infected rats, ground squirrels, etc.

The germ which causes the disease is transferred from rat to man, or from rat to rat, by the bites of fleas. Occasionally in human beings the disease becomes epidemic in pneumonic form when it is easily communicable from person to person.

Some of the greatest scourges of history have been caused by this disease. In Justinian's reign a great epidemic spread over the Roman Empire and before it terminated destroyed in many portions of the country 50 per cent of the people. The fourteenth century saw the whole of Europe stricken. The most recent great epidemics have been in India and Manchuria. At the present time the disease has a foothold in practically every country in the world and only by extreme measures is it prevented from becoming epidemic. Outbreaks have been reported in several of the warring countries of Europe.

The great danger in a city like Boston is that infected rats from foreign ships may gain access to the wharves and start an infection among the rat population which might become so widespread as to defy eradication before there were any human cases.

The government requires strict precautions, such as rat guards on hawsers, breasting off of ships from wharves and fumigation of vessels to kill rodents, but it is always a possibility that an infected rat may escape to shore despite the utmost diligence. Of course this danger is nowhere near so great at the present time as it will be after the war when commerce with many foreign ports will be resumed.

The presence of bubonic plague in a city causes a very serious interference with commerce, and its eradication, when once established, requires tremendous expenditures.

Since it is a practical impossibility to exterminate rats by traps or poison they must be built out by rat-proof construction and starved out by careful attention to the disposal of refuse.

In view of the wide prevalence of the disease it seems probable that sooner or later it will be introduced here. On this account the Health Department has for years urged that all new waterfront construction should be ratproof and has enforced rules to prevent rodents from having access to food-stuffs, garbage, etc., at the wharves.

A rat catcher is employed who is constantly trapping along the waterfront, tagging each rat caught so that the location can be identified if necessary. These rats are then brought to the Bacteriological Laboratory of the department and carefully examined to determine whether the disease is present.

By these precautionary measures it is hoped if the disease is brought here that it will be quickly discovered and stamped out before there are human victims and before it becomes widespread among rodents.

CASE OF LEPROSY IN BOSTON.

On November 8 a case of leprosy was reported to this department in the person of a native of Greece (male), twenty-seven years of age, a dishwasher in a restaurant.

He came to this country from Greece three and one-half years ago on the steamer "Patrice." Has been ill seven months. Upon discovery the case was immediately removed to the Detention Hospital and later to the leper colony at Penikese Island.

This is the first case of leprosy reported in Boston since 1913.

DISINFECTANT RECOMMENDED BY THE HYGIENIC LABORATORY, WASHINGTON, D. C.

Heat in a covered enameled iron pail 1,000 grams of pine oil with 400 grams of pulverized rosin until dissolved. Cool to 80 degrees centigrade and add 200 drams of a 25 per cent solution of sodium hydroxide. Agitate thoroughly for at least ten minutes with a rotary "Dover" egg beater; add water sufficient to make mixture to the original weight and cool by placing the pail in ice water. Use cool water for diluting. The phenol coefficient of this disinfectant is from 4 to 6.

In making this disinfectant use clear transparent pine oil obtained by the steam or solvent process, not by destructive distillation. This oil distills at 207 degrees and 85 per cent of it will go over between 207 degrees and 230 degrees. The rosin used should be strained Northern Carolina, Grade E. rosin, ground.

The oil costs 40 to 50 cents a gallon, the rosin about $2\frac{1}{2}$ cents a pound, and the total cost of the disinfectant product should not exceed 50 cents per gallon.

It should be referred to as "Hygienic Laboratory Pine Oil Disinfectant."

While October and November are generally the healthiest months in the year the rate from sickness begins to climb in December and colds and pneumonia increase until the maximum is reached in March.

IMPORTATIONS OF PRINCE EDWARD ISLAND MEAT INTO BOSTON.

It may be a matter of considerable surprise to those who always think of the United States as being the meat provider for other nations to know that for the year ending December 1, 1915, there were imported into Boston from Prince Edward Island 120,000 pounds of cut meats.

The shipping point for this meat is Charlottetown, P. E. I., and then transshipped at Halifax, N. S., for Boston. It comes here packed in barrels and consists of the cheaper grade of cow and bull beef, with occasional shipments of beef hearts, the products being used in the manufacture of sausages in this city. Upon arrival at Boston it is inspected by agents of the United States Bureau of Animal Industry and it is usually found to be in fairly good condition.

In a recent examination of one of the sausage factories in this city 148 pounds of this imported meat were condemned as tainted.

REDUCTION IN TYPHOID FEVER.

Much progress is being made by the health organizations in the large cities in the country, and proves that much may be accomplished if communities take interest in the health of the people within their confines. A glance at the following table shows how the rate from typhoid fever has been reduced in cities containing over 500,000 population.

	Death rate per 100,000 Population.	
	1906-10.	1911-13.
Boston	16.0	9.2
New York	13.8	9.3
Chicago	15.5	9.6
Cleveland	16.5	11.4
Philadelphia	42.1	14.1
St. Louis	16.1	14.2
Pittsburgh	74.3	18.5
Baltimore	34.6	24.9

In Boston the figures for 1914 were 9.2 per 100,000 population.

If the number of deaths thus far reported in Boston this year serves as a criterion then the rate will be under 6 per 100,000 population for 1915, which is the lowest in the history of Boston and probably never reached by any of the above mentioned cities.

Cancer attacks more females than males. The mortality in this country among females is twice that of males.

ANALYSES OF CERTIFIED MILKS.

The following are the reports of the Medical Milk Commission of Boston on the bacteria counts and fat tests of certified milk for the month of November and first week in December, 1915:

MIDDLEBROOK FARM.

	Bacteria.	Fat.
November 1	2,300	
November 8	700	
November 15	1,200	
November 17	—	4.10
November 22	40,000	
November 29	700	
December 6	950	

MASSACHUSETTS AGRICULTURAL COLLEGE.

	Bacteria.	Fat.
November 8	1,100	
November 10	800	
November 15	1,100	
November 17	—	4.05
November 26	900	
November 29	400	

CHERRY HILL FARM.

GENERAL.

	Bacteria.	Fat
November 1	1,700	
November 8	200,000	
November 11	1,200	
November 15	3,700	
November 17	—	3.50
November 22	3,200	
November 29	1,500	
December 6	400	

FOUR PER CENT.

	Bacteria.	Fat.
November 1	950	
November 8	40,000	
November 11	4,000	
November 15	1,500	
November 17	—	4.30
November 22	1,200	
November 29	1,100	
December 6	1,000	

HAMPSHIRE HILLS DAIRY.

	Bacteria.	Fat.
November 1	1,400	
November 8	200	
November 15	13,000	
November 17	—	4.00
November 26	1,900	
November 29	1,000	
December 6	200	

PROSPECT HILL FARM.

GENERAL.

	Bacteria.	Fat.
November 1	1,700	
November 8	900	
November 15	4,200	
November 17	—	4.55
November 22	1,100	
November 29	6,400	
December 6	1,500	

FOUR PER CENT.

	Bacteria.	Fat.
November 1	1,600	
November 8	700	
November 15	3,100	
November 17	—	4.50
November 22	1,400	
November 29	6,750	
December 6	800	

A NEW METHOD OF TABULATING MORBIDITY STATISTICS IN THE MEDICAL DIVISION OF THE HEALTH DEPARTMENT OF THE CITY OF BOSTON.

Since September 1, 1915, the Health Department has been using electric sorting, counting and punching machines in the compilation of morbidity statistics. Formerly all the mortality statistics published by the Health Department have been compiled by this system. Beginning this year a study was made to see if the same machines could be used to furnish the morbidity statistics. The system of records formerly in use called for many different ledgers and separate units and cabinets for holding the different cards and records, so that it was impossible to collect in one unit the different data necessary for the compilation of our statistics, and to obtain any special information concerning any particular disease entailed the work of days and sometimes weeks on the part of our clerical force. Under the present system a separate envelope has been devised (a different color for each disease), on the face of which all the necessary data is recorded from the beginning to the end of the case. Within this envelope is held the original reporting card of the attending physician, the visiting medical inspector's card, and the visiting nurse's card, thus keeping all the records relating to each case together, and all the envelopes filed in one cabinet, instead of being distributed among several books and card indices as in the old system. This information is

then punched on a special card, and this card carries with it a complete history of the case. A code has been made, and numbers assigned, for some of the more important facts.

Diphtheria, tuberculosis, scarlet fever, typhoid fever, measles, whooping cough and ophthalmia neonatorum are diseases in which it is all-important to have the necessary information on each and every case, in order that effective measures may be taken for their control. During the past few months that this system has been in use it has demonstrated to the satisfaction of the department the accuracy of the data furnished and the great saving in time and labor on the part of the clerical force. Where, heretofore, it was impossible to furnish quickly the necessary information regarding the health conditions or morbidity rate of any district, now it is only a question of a few minutes when this information can be furnished to those desiring the same. For example: It may be asked "What are the health conditions of some particular ward of the city as regards tuberculosis?" By means of our punched card system and the use of the machines, information can be given as to the number of cases in any particular ward of the city; date reported; sex; age; kind of house, whether single or several apartments; hotel, lodging house, institution, basement; sanitary condition of house; birthplace of patient; occupation; whether two or more cases in the family; number of other cases in the house; laboratory findings, whether sputum is positive or negative; whether patient is confined to hospital; if at home, whether in a separate room, and duration of illness (in case of death).

In diphtheria information is punched as regards date reported; age; ward; school attended; whether antitoxin was administered; whether confined to hospital; occupation; sex; milk supply used; number of other cases in the house; kind of house; laboratory findings, and date of release.

In all other diseases the same method is in use. All the facts necessary are punched on the card. These cards, fed to the machine, furnish accurately within a few minutes all information desired.

One of the great advantages of this system that has been found since it has been installed is that no case once reported to the department can be released until all the necessary facts are made a matter of record. Under the old system, when an audit of our cases was made at the end of the year, some very important data necessary for our morbidity and mortality statistics was found missing, and so much time had elapsed it was impossible to obtain the necessary information on these cases.

By the use of these machines and the card system it will be possible for this department to furnish at any time the morbidity statistics of this city, and especially to publish at the beginning of the year our annual report, which will show the activities of the department and the morbidity rate of the city either as a whole or in the different districts; under the old system we were not able to publish this report until several months had elapsed.

HEALTH DEPARTMENT EXHIBIT AT STATE HOUSE.

At the recent Metropolitan City Planning Exhibition for city and town advance held at the State House, the Health Department by charts, maps, diagrams and figures portrayed the work of the different divisions of the department. The following were included in the exhibition: Charts showing the great decrease in cases and deaths from the different communicable diseases, the decrease in infant mortality, methods employed, births and deaths of infants by wards, the excess of deaths of bottle-fed infants over breast-fed infants, contrast of infant deaths 1884 and 1914, and charts showing principal causes of deaths from infancy to old age, a pin map six feet square showing location of dairies in New England, New York and Canada which supply Boston with milk and cream, pictures of milk-receiving establishments, model barns, tie-ups and stalls, insanitary and sanitary barns in the country, proper and improper method of handling and bottling milk and cream, clean and unclean meat and milk stores and bakeries, exterior of abbatoir, inspectors at work examining meat, egg-breaking establishments, lung testing, clean and unclean alleys and yards, paved and unpaved passageways, overcrowded home conditions, old and dilapidated ells and sheds, basements that were vacated and basements that were satisfactory, samples of the various laboratory outfits used in the taking of cultures, sputum and blood for bacteriological examinations, and methods used for testing and examining milk, etc., and all forms and cards used by the different divisions of the department.

It has been estimated that more than 50,000 persons visited the State House to view the exhibits of the different boards, departments and associations engaged in civic betterment. Much favorable comment was heard on the display, the work performed and results achieved, and a New York association and a Harvard College bureau have requested the loan or copies of many of the charts exhibited by this department.

EXPENDITURE FOR PUBLIC HEALTH ACTIVITIES BORNE BY BOSTON IN YEAR 1914.*

City Departments.

Health Department, maintenance for 1914-15	\$303,322 01
Consumptives' Hospital Department, main- tenance for 1914-15	\$212,950 03
Less board of patients paid for	61,428 62
	<hr/> 151,521 41
City Hospital, maintenance for 1914-15	\$674,013 25
Less board and care of patients paid for	125,285 90
	<hr/> 548,727 35
School Committee, school nurses	31,210 03
City total	<hr/> <u>\$1,034,780 80</u>
Per capita of total city population, estimated, July 1, 1914, 719,813	<hr/> <u>\$1 44</u>

State Departments.†

Department of Health	\$362,100 54.
Hospitals, etc., in charge of State Board of Insanity:	
State Board of Insanity	\$126,730 38
Trustees, Hospitals for Consumptives	115,013 32
Tuberculosis Sanatoria	451,808 78
Boston State Hospital	385,707 18
Danvers State Hospital	295,907 26
Foxborough State Hospital	103,164 35
Gardner State Colony	158,043 25
Medfield State Hospital	370,465 55
Monson State Hospital	214,121 34
Northampton State Hospital	144,981 73
Taunton State Hospital	254,446 95
Westborough State Hospital	251,353 93
Worcester State Asylum	310,352 51
Worcester State Hospital	294,278 28
Wrentham State School	119,580 86
Lakeville State Sanatorium	90,470 74
Hospital School	36,959 22
North Reading Sanatorium	66,382 07
Rutland Sanatorium	159,443 90
Westfield Sanatorium	98,552 85
Norfolk State Hospital	89,709 62
	<hr/> 4,137,474 07
	<hr/> \$4,499,574 61
One-half of state expenses met by state revenue — hence deduct	2,249,787 30
Amount included in state tax	<hr/> \$2,249,787 31
Boston's share of state tax, 32.9 per cent, hence that per cent of \$2,249,787.31	<hr/> <u>\$740,180 00</u>
Per capita (of Boston's population) for state health expenditure	\$1 03
Per capita (of Boston's population) for city and state	2 47

* Compiled by Statistics Department, City of Boston.

† It should be understood that these state figures are only *approximate*.

NOTES.

Education prevents crime as well as disease.

Get an abundance of fresh air where you work, play and sleep; do not overclothe or overeat; exercise. If you do these things pneumonia will be kept at a safe distance.

If you feel ill, instead of dosing up with every kind of quack medicine and nostrum and listening to all who have cures, consult a skilled physician at once.

As cases of diphtheria increase in the fall so does the Health Department increase its recommendations for the extensive use of antitoxin. Antitoxin should be used at once, preferably, of course, the first day.

It is an erroneous impression that prevails among some members of the medical profession that antitoxin has a depressing effect on the heart and is therefore dangerous.

It is estimated that during the year 1914 more than 100,000 persons were immunized against typhoid fever and that the figures this year will reach 300,000 in this country.

Physicians should recommend antityphoid immunization.

Of the total amount of money appropriated by the State of Pennsylvania for the next two years in the interests of public health, two-thirds of that sum will be expended on tuberculosis.

From 1876 to 1884 there were in this country 28 cremations, while in 1913 there were 10,183. Since 1876 the total number of cremations in the United States has been 86,006.

It is stated that of the total number of people engaged in the garment industry in New York only slightly more than 2 per cent are free from disease or defect.

In a recent study and investigation made of the garment workers of New York City it was found that tuberculosis is ten times as prevalent among the men as it is in the United States Army.

There are more deaths from cancer in persons over forty years of age than from pneumonia or tuberculosis.

The Supreme Court of the State of New York has ruled that the marriage of a person having tuberculosis might be annulled at the instance of the other party if it is proven that the existence of the disease was concealed at the time of the marriage.

In this country during the year 1914 a quarter of a million children died before they reached the age of one year.

On account of the European war the importation of many chemicals and ingredients for medicines has been stopped and the prices of the supply in this country have soared. In consequence, much spurious aspirin and neosalvarsan are being sold in this country. Physicians should see to it that prescriptions are filled by reputable druggists.

According to Dr. Alfred Ploetz of Munich, Germany, ninth born children have as much chance of living as first born. In a table recently prepared by him after much study and investigation it is shown that the percentage of first born children that die is 26.4 with no noticeable difference up to the ninth born, when the percentage shows 26.3. From the tenth born to the nineteenth born the mortality increases and becomes much higher, the percentage of deaths among these being 34.4.

LEGISLATION ENACTED BY THE MASSACHUSETTS LEGISLATURE DURING 1915, RELATING TO PUBLIC HEALTH.

Chapter 12. An act relative to the establishment and maintenance of pest houses by cities and towns.

Chapter 46. An act relative to the apportionment of betterments assessed for wet, rotten or spongy land.

Chapter 50. An act relative to the abatement of smoke in the City of Boston and vicinity.

Chapter 52. An act relative to the records of local boards of health of diseases declared by the State Department of Health to be dangerous to the public health.

Chapter 55. An act relative to the sale at retail of eggs taken from cold storage.

Chapter 108. An act relative to the cost of the disposal of surface drainage in the City of Boston.

Chapter 190. An act to authorize the hiring of beds for tuberculous patients in the City of Boston.

Chapter 258. An act relative to the manufacture of bread to be sold by the loaf.

Chapter 346. An act relative to the use of cellars and basements in the City of Boston as living rooms.

Chapter 93. Resolve providing for the further protection of the public health in the valley of the Neponset river.

Chapter 24. Resolve providing for an investigation by the State Department of Health and the trustees of hospitals for consumptives relative to reimbursing cities and town for hospital care of tuberculous patients.

SUMMARY OF VITAL STATISTICS.

Boston had 800 deaths reported in the four weeks ending November 27, against 848 in the corresponding period last year, and a death rate of 14.33 against 15.36.

Reported deaths of nonresidents numbered 98 against 115 last year.

Of deaths from reportable diseases the principal differences were:

	1914.	1915.	Decrease.	Increase.
Tuberculosis (all forms)	83	73	10	—
Measles	7	2	5	—
Typhoid fever	7	3	4	—
Whooping cough	3	11	—	8

Other important differences were:

Organic diseases of heart, endocarditis and nephritis	190	159	31	—
Cancer	68	54	14	—
Diarrhea and enteritis (under 2 years)	28	22	6	—
Pneumonia	92	86	6	—
Premature birth	36	31	5	—
Violent	55	65	—	10
Puerperal causes	4	8	—	4
Other causes	226	242	—	16

There were 3 more deaths under 1 year, 9 less under 5 years and 4 more over 60.

Deaths under 1 year reported in 47 weeks from January 2 to November 27 were 1,812 against 1,804 for the corresponding period in 1914.

Total deaths reported in the same period were 10,621 against 10,645 for the corresponding 47 weeks last year.

**The Following is a Summary of the Work Done by the
Different Divisions in the Department for the Four
Weeks Ending November 28, 1915.**

**MORTALITY FOR THE FOUR WEEKS AND SAME PERIOD IN
1914.**

	1914.	1915.
Total deaths	848	800
Nonresidents	115	98
Rate	15.36	14.33
Corrected rate	13.27	12.57
Deaths under 1 year	138	141
Deaths under 5 years	203	194
Deaths over 60 years	244	248

**NUMBER OF CASES AND DEATHS FROM COMMUNICABLE
DISEASES.**

	Total Cases.	Total Deaths.	Nonresid ents. Cases.	Deaths.
Diphtheria	266	18	50	7
Scarlet fever	139	1	25	1
Measles	134	2	—	—
Typhoid fever	38	3	3	—
Whooping cough	184	11	2	1
Tuberculosis (all forms)	217	73	16	3

CENTRAL DIVISION.

Legal notices authorized	535
Forcible removals ordered	12
Prosecutions authorized	4
Regulation adopted	1
Stable hearings	5
Hearings	5
Lying-in-Hospitals certified	3
Premises ordered vacated	12
Undertaker appointed	1

Licenses — Permits.

Milk	137
Manicure—Massage	120
Hens	65
Licenses to peddle fruit and vegetables	12
Dump	10
Stable	1
Permit to reoccupy premises	1

SUPERINTENDENT OF PEDDLERS.

Licenses renewed to remove bones, grease, etc.	68
Numbers assigned	24
Vehicles inspected and approved	602

COMMUNICABLE DISEASES.

Number of visits by medical inspectors	4,113
Antitoxin given	16
Deaths investigated	11
Physical examinations	577
Cases brought to Boston for treatment	80
Number of visits by nurses	2,650
Vaccinations	7
Vaccination certificate	1
School certificate	1
Disinfections for tuberculosis	27
Patients forcibly removed to hospitals	12

CHILD HYGIENE.

Prenatal visits	83
Postnatal visits	5,124
Number of babies visited	1,505

Examination of Licensed Minors.

Girls	228
Boys	304

BACTERIOLOGICAL LABORATORY.

Examinations for Diagnosis and Release.

Diphtheria	1,311
Tuberculosis	361
Typhoid	152
Gonorrhea	199
Other examinations *	181
Bacteriological milk examinations	637

FOOD INSPECTION.

Live Stock Inspected at Brighton Abattoir.

Cattle inspected	632
Calves inspected	1,016
Swine inspected	7,918
Animals condemned, whole	147
Parts condemned	490 pounds

Inspection of Provisions — Articles Condemned.

Meats and Fish:		Miscellaneous:	
Poultry	348 pounds	Cherries	6,400 pounds
Salami	200 pounds	Cheese	9½ pounds
Beef	178 pounds	Sweet potatoes	5 pounds
Pork	415 pounds	Oysters	¾ barrel
Lamb	26 pounds	Prunes	16 pounds
Fish	7,650 pounds	Stores examined	1,257
Miscellaneous:		Prosecutions	5
Cranberries	2 pounds	Fines	\$90

* Examinations of rats (105), Feces, for Typhoid Fever, Malaria, Paratyphoids, Ophthalmia, Organisms, K. L. vir. Vir. for Strep. Genito Urinary Tuberculosis.

MILK INSPECTION.

(Examinations as to Statute Requirements.)

Samples Examined:

Chemical examinations of milk	1,214
Bacteriological examinations of milk	637
Bacteriological examinations of ice cream	4
Chemical examinations of vinegar	107
Chemical examinations of butter and cheese	52
Chemical examinations of ice cream	29
Number of court cases	58
Fines	\$1,190

SANITARY INSPECTION.

New reports	3,201
New tenement house reports	215
Legal notices	565
Reinspections	5,910
Nuisances reported	4,980
Complaints investigated	885
Court cases	3
Fines	\$2

DECEMBER, 1915

3761-1

MONTHLY BULLETIN
HEALTH DEPARTMENT
OF THE
CITY OF BOSTON



FRANCIS X. MAHONEY, M. D., *Commissioner*

STATISTICS FOR 1915.

Population 748,431			
Births	19,571	Birth rate	26.1
Deaths	12,018	Death rate	16.06
Of these total deaths 13.4 per cent were nonresidents.			

BOSTON
HEALTH DEPARTMENT
CITY HALL ANNEX
1915

HOW TO AVOID PNEUMONIA.

Keep out of badly ventilated, overheated or overcrowded rooms, halls, theaters and cars.

Breathe through your nose.

Avoid people who have "colds."

Keep the body clean.

Exercise in the open daily.

Keep the window of sleeping room open, but avoid drafts.

Don't overeat, overclothe or overexert.

Keep the excretory organs active.

Keep the feet dry.

If ill, send at once for a physician, and go to bed.

MONTHLY BULLETIN

OF THE

HEALTH DEPARTMENT OF THE CITY OF BOSTON.

FRANCIS X. MAHONEY, M. D., *Commissioner of Health.*

All communications relating to this publication should be addressed to Editor, BULLETIN
OF THE HEALTH DEPARTMENT, BOSTON.

BOSTON, DECEMBER, 1915.

INFLUENZA.

This disease first came to the general attention of the medical profession and laity in this country in 1889, when it started in epidemic form and became pandemic in the far East and spread with alarming rapidity throughout the four quarters of the globe. In Europe 40 per cent of the population was attacked. The number of cases and deaths at that time from this disease has not been paralleled in modern times. It spread without regard to climate, wind, weather, or telluric conditions. Since then it has not changed its ways.

From that time on it has been noted that influenza has made itself felt annually in some part of this country or Europe, usually lasting from four to six weeks at a given locality. Little is yet known about immunity in influenza, and it seems that those most exposed are most likely to be affected irrespective of previous attacks, and oftentimes the second attack comes while a patient is convalescing from the first.

Prior to 1889 influenza was not troublesome to any great extent in this city, but in the winter of that year there started a severe outbreak, which was followed by successive epidemics each year up to and including 1892, when influenza in epidemic form disappeared here. Influenza then, as now, being a non-reportable disease, it was difficult to ascertain the number of cases, but we do know that it resulted in hundreds of deaths from acute pulmonary diseases.

In the month of January, 1890, there were registered 332 deaths from pneumonia and 213 deaths from tuberculosis, and deaths from other diseases following influenza were high in proportion.

The tremendous increase in the number of deaths from these diseases at that time should serve as sufficient warning to people in this city, and that while, in itself, influenza did not contribute as large a total of deaths as did pneumonia and tuberculosis, it was the starting point of these fatal terminations.

Influenza is highly communicable during the early stages of the disease, and the minute bacillus causing it, discovered by Pfeiffer in 1892, spreads from person to person and especially where congestion is greatest. Contrary to the previous history of the disease, this time it has started in the western and southern parts of the country and moved eastward. Some weeks ago it was reported in epidemic form in Jackson, Miss., and later in Milwaukee, Wis., coming east to Philadelphia, New York and Boston, leaving a great toll of deaths in its wake.

The bacillus does not multiply outside the body, and offers but feeble resistance. It is found in secretions from the nose, throat and respiratory tract, and its period of incubation is very short, sometimes less than twenty-four hours. While especially virulent at the onset, it has the power of forming toxins which continue to poison the system after apparent recovery. Its mode of transmission is by direct contact or by common towels, cups and handkerchiefs, contaminated with fresh secretions. Even in periods between epidemics it has been found in 25 to 59 per cent of all coughs and expectorations.

The usual period between exposure and infection is from two to three days, although infection often takes place in a few hours. It may come in the form of a gastro-intestinal type, nervous type, or the other type, which is the most common, respiratory. Its general symptoms are chills, aching of the limbs, headache, rise in temperature, general discomfort, and often spitting, coughing, sneezing and vomiting, as well as running from the eyes. The acute stage lasts three days or more, and if proper care is taken from the time of onset and no complications arise, recovery soon begins. The sufferer is for a time, however, prone to other diseases, because the poison has an exhausting effect upon vital organs. Chest troubles are the commonest complications. Exertion too soon after recovery may lead to heart disease, continuing indigestion or damage to the nervous system. When no precautions are taken, influenza often ends fatally.

It would seem, therefore, that anyone troubled with above symptoms, and especially now, when influenza is prevalent in this city, should at once go to bed and then send for a physician.

SCARLET FEVER.

The Health Commissioner issues the following recommendations, with the hope that those not familiar with the care of scarlet fever may be benefited thereby:

Scarlet fever is like smallpox in its power to spread rapidly from person to person; it is highly contagious. The disease shows its first symptoms within one week after exposure as a general rule; and persons who escape the illness during a fortnight after exposure may feel themselves safe from an attack.

Scarlet fever, scarlatina, canker rash and rash fever are names of one and the same dangerous disease.

When a case of scarlet fever occurs in any family the sick person must be placed in a room apart from the other inmates of the house, nursed as far as possible by one person only, who should not mingle with unexposed persons, and remain isolated or taken to the hospital.

The sick chamber should be well warmed, exposed to sunlight and well aired; its furniture should be such as will permit of cleansing without injury, and all extra articles, such as window and table drapery, woolen carpets and the like, removed from the room. The physician and nurse should be the only persons admitted to the room.

Visitors to the infected house should be warned of the presence of a dangerous disease therein, and children especially not admitted. All clothing removed from the patient, nurse, or their beds should be at once placed in a solution of corrosive sublimate (one drachm of corrosive sublimate and eight drachms of common salt to each gallon of water — 1 in 1,000 — in a wooden vessel marked "Poison") by the nurse before being carried through the house or handled by any other person. They may be soaked in this fluid for a convenient time and then *boiled* for one-half hour. It is better not to use handkerchiefs for cleansing the nostrils and mouth of the patient, but rather soft rags, which should be immediately thereafter burned. Cleanliness tends both to prevent and mitigate the disease. Children in the family should not attend school without a certificate from the Department of Health or school physician to the effect that all danger of infection is past. For disinfection, the room and everything in it should be thoroughly aired, walls and ceilings brushed, floors and other woodwork washed with the solution of corrosive sublimate, and all vessels and utensils used in the room thoroughly washed with the same solution.

OCCUPATIONAL CLINIC.

The Department of Health will open an occupational clinic this month at the Chardon Street Home Building, West End. This clinic will be open every day in the year — Sundays and holidays excepted — for the examination of all persons engaged in the handling of foodstuffs and for the dispensing of typhoid prophylactic and free vaccinations.

For the present only those engaged in the handling of foodstuffs in hotels and restaurants will be examined and it is hoped this will prevent those having infectious diseases from engaging in these occupations. Already many of the hotel and restaurant proprietors in this city demand from each applicant seeking employment a health certificate stating that he or she has been examined and found free from any infectious disease. The clinic will at this time examine only employees of establishments which have not yet established medical supervision of their employees.

The health certificate issued will certify that the bearer at the time of examination is free from any communicable disease, and said certificate must be renewed at least once a year. It is the desire of the department that eventually all persons engaged in the handling of foodstuffs will be examined at this clinic, and that ultimately it will be the means of stamping out some of the residual typhoid fever that is always present in every large city. A great majority of the cases of typhoid fever, upon investigation, give a history of patient eating in different restaurants of the city, and there is a strong suspicion that many of these cases are infected by typhoid "carriers" who are engaged in the dispensing and preparation of food. This health certificate will be of great advantage to a person seeking employment, and also will be a great protection to all other employees and patrons of the different establishments.

Proposed legislation this year demands that every one engaged in the handling of foodstuffs be physically examined and be provided with a certificate stating that he or she is free from communicable disease. Such a law would be a great step forward in preventive health work and would do much toward reducing the sick rate and death rate from certain diseases.

The total number of deaths in a week from all causes the last week in 1915 was the highest of the year.

INDUSTRIAL HYGIENE.

One of the greatest subjects in preventive medicine is industrial hygiene, and while comparatively new in this country tremendous strides are being made to improve conditions of the worker in the shops, mills and factories, to lessen the amount of sickness and decrease the number of deaths due to unhygienic conditions.

The invention of new processes, the growth and development of new industries, crowded conditions and lack of proper light and ventilation, together with the rush of business, with its keen rivalry and competition, have resulted in conditions which demand legislation necessary to correct abuses and remedy evils peculiar to the environment of the working man.

Legislation is required to improve working conditions in shops and factories which chiefly arise because of the avarice, indifference and ignorance of the employer, but these conditions are partly due to the working man himself,—his ignorance, his carelessness and his laziness. Agitation and legislation are necessary for the welfare of both labor and capital. Through enlightenment of public opinion and organized labor many changes for the better have been made. In the courts of Oregon and Illinois it was successfully argued that long hours are injurious to the physical and mental condition of the employed. Statistics show that fatigue and consequent accidents increase as the day goes on. The greater the length of the day, the greater the number of accidents occurring.

Improved conditions and shorter hours mean expenditure of money on the part of the employer. In most cases legislation is necessary to compel this expenditure, which will make the working day shorter and working conditions better. It means better light, better ventilation, proper drinking water and individual drinking cups, improved toilet facilities and sanitary arrangements, receptacles for expectoration, proper temperature, latest devices or appliances for the health and safety of the worker. Excellent legislation has already been enacted in this Commonwealth for the men, women and children who toil in the factories and workshops. Massachusetts was the first state in the country to begin investigation and obtain data relative to the health and hygiene of the workers in the mills and factories.

Many of the occupational diseases may be lessened by legislation, inspection, education and penalties. During the past few years much progress has been made. The rate of sickness and death due to the industries have decreased in consequence

of humane legislation. As good legislation and adequate inspection increase, so will the health and happiness of the mill hand and the factory worker. With better working conditions we see a decrease in the death rate of children born of factory workers.

Everything done by the employer to increase the health and happiness of his employees, though involving the expenditure of money, is a resultant economic gain to himself, the community and the world.

Diseases of occupation arise from the inhalation of irritating and poisonous gases and dust, absorption of irritating or poisonous substances, exposure to excessive heat or cold without proper protection, fatigue, mechanical violence and excessive use of certain organs.

We have, then, diseases due to the inhalation of sulphuric acid gas, nitric acid fumes, hydrochloric fumes, ammonia, chlorine gas, carbon monoxide, carbon dioxide, sulphuretted hydrogen, bisulphide of carbon, iodine and bromine vapors, petroleum vapors, lead poisoning, mercurial poisoning, zinc or copper vapors, aniline vapors, coal dust, metallic dust, mineral dust, vegetable dust, arsenic, phosphorus, bichromate of potassium and strong alkali. We have cooks, bakers, blacksmiths, firemen, stokers, sailors, farmers, teamsters and workmen in tunnels who are subject to excesses of heat and cold. Tea tasters, tobacco testers, watch makers, engravers, seamstresses, copiers, cigar makers, singers, telegraph operators and performers on wind instruments are subject to diseases due to the excessive use of certain organs. Workmen, such as brakemen and engineers, whose occupations involve constant contact with machinery, have a short duration of life. Doctors, nurses, pathologists and scientific investigators are in constant risk of infection.

About this time of the year when Legislatures are about to convene the anti-vaccinationists begin to flood the mails with their phillipics against vaccination and inoculation. The best way to treat such writings is to destroy them. If you are likely to be convinced by any of the arguments set forth always remember that there is another side to the shield,—that the most eminent authorities in all civilized nations of the world have by word and deed demonstrated that vaccination has been the powerful weapon that has overcome smallpox and is reducing typhoid fever to a minimum.

Estimate of Sickness and its Cost Among the 33,500,000 Occupied Males and Females in the United States, 1910.

Estimated number of cases of sickness, on the German basis of 40 per cent of the number of persons exposed to risk	13,400,000
Estimated number of days of sickness on the German basis of 8.5 days per person per annum	284,750,000
Estimated loss in wages at an average of \$1.50 per day for $\frac{1}{2}$ of the 284,750,000 days	\$355,107,145 00
Estimated medical cost of sickness at \$1 per day for 284,750,000 days	\$284,750,000 00
Estimated economic loss at 50 cents per day for $\frac{1}{2}$ of the 284,750,000 days	\$122,035,715 00
Total social and economic cost of sickness per annum	\$772,892,860 00
Estimated possible economic savings in the health of individual workers on the basis of 25 per cent reduction per annum	\$193,223,215 00

While the above figures are but estimates, it is nevertheless true that an enormous economic loss might be prevented. This saving will increase as rapidly as working conditions are improved, and warrants the expenditure of large sums of money and much effort in reducing the amount of sickness and death due to industrial accidents and occupational diseases.

This justifies the maxim that "Public Health is Purchasable."

THE RAVAGES OF THE INSECT.

The insect continues to be a scourge of civilization. It has made itself felt and disliked in times of war as well as in times of peace.

We are familiar with the house fly, stable fly, tsetse fly, gnat and other species that carry diseases in their own neighborhoods. Flies have caused typhoid fever, cholera, dysentery and other contagious diseases, purulent ophthalmia, "pink eye," sleeping sickness and pappataci fever, besides sicknesses not familiar to us. We know the mosquito carries malaria, yellow fever, dengue, filariasis, and ticks are known to be especially the enemies of cattle as well as of human beings, carrying germs of such diseases as Texas fever, African tick fever, Rocky Mountain spotted fever, etc. Even the bed-bug must bear the responsibility for carrying relapsing fever and kala-azar; the flea from the infected rat or squirrel is the carrier of bubonic plague, and the body louse that has caused such tremendous

damage to the citizen and soldiery of the warring nations, and particularly to the country of Serbia, is probably as bad as the worst.

Then there is the biscuit "weevil" and the flour moth, the fig worm of the East which lays its egg that later becomes a maggot in the figs as they dry in the sun, and the warble fly which attacks cattle and damages both hide and meat.

RATS.

The **Rat** breeds from three to five times a year, each time bringing forth 6 to 19 young.

It has been estimated that a pair of **rats** in 5 years, if they live that long, will multiply to over nine hundred and forty billion.

In the daytime **rats** seldom come forth, but at night they fairly swarm wherever there is rubbish and food in abundance.

Rats eat and destroy food and do other damage in this country that amounts to thirty-five million dollars a year.

Rats spread dangerous diseases, especially bubonic plague and leprosy.

Rats harbor many dangerous, intestinal parasites which are communicable to man.

Rats should be slaughtered and the possibility of further breeding prevented.

All new buildings should be made **rat**=proof. It costs but little if done at the time of building. Every building should be made **rat**=proof now. The cost is infinitesimal in comparison to the damage done by rats.

All rubbish and discarded food should never be allowed to accumulate.

No rubbish — no shelter.

No food — no **rats**.

HEALTH EXHIBIT AT HORTICULTURAL HALL.

At the fifty-third winter meeting of the Massachusetts State Department of Agriculture Dr. Harvey N. Wiley prefaced his lecture on "Milk Inspection from the Producer's Point of View" by saying that the most interesting and illuminating feature of the entire exhibition was the display of charts shown by the Boston Department of Health and he hoped that everyone who had not already seen these would do so without fail.

Also, that the chart showing the location and routes from which market milk is shipped to Boston was the most comprehensive chart of its kind he had ever seen.

FREE WASSERMANN TESTS.

The Bacteriological Laboratory of the Boston Health Department is prepared to examine blood specimens by the Wassermann test for syphilis.

Tests are made each Tuesday, Wednesday, Thursday and Friday.

Patients for whom the test is requested should be sent to the laboratory, Room 1101, City Hall Annex, where the blood specimens will be taken.

History blanks will be mailed to any Boston physician on request, and each patient appearing at the laboratory must present one of these, carefully filled out and signed by his attending physician.

The laboratory will be prepared to receive these patients and to collect the blood specimens on Mondays, Tuesdays, Wednesdays and Thursdays, from 2 to 4 p. m., only.

Specimens will not be collected at any other time, nor will they be collected from patients coming without a carefully prepared history card.

This test, like all laboratory tests furnished by the department, is without cost to physician or patient.

FOOD LAWS OF OLD.

It is interesting to note that centuries ago the citizens and the state protected their food supplies by both municipal laws and religious custom and commandment.

The Egyptians were forbidden to eat the meat of a cow as this animal was the sacred one of the Isis, and the eating of the flesh of any other animal that was considered sacred was also a violation of the religious or civil code. It was illegal for the Athenians to eat the meat of a lamb that had not been shorn once, and by the Romans goat meat was considered unwholesome, but pork was their favorite, fifty different preparations being made of this kind of meat.

The art of sausage making was a finished one in Rome and most of the well known varieties were made and relished by the inhabitants, and the salting of meat was practised as far

back as the times of Homer. In the days of ancient Rome slaughter houses and meat booths were among the largest of public buildings.

The Israelites were forbidden by Moses to eat fat or blood and were commanded to avoid the meat of hogs. While the Phœnicians abstained from eating the meat of the cow, dog meat was very much desired by them. The Lipanese were forbidden to eat fish for the reason that the flesh decomposed too rapidly. Hares were considered unclean and unwholesome and were eaten only by the poor in Rome, but rabbit meat was the favorite of all.

There were many penalties attached for violation of the municipal laws or religious custom. In Rome, condemned meat was thrown into the Tiber, and fines were devoted to the erection of a temple to the goddesses. The early German food laws imposed severe penalties for violations of the meat laws or for dishonesty on the part of the butcher. Each country inflicted punishment peculiar to the times and the inhabitants and in early Egyptian days the death penalty was prescribed for priests who slaughtered an animal that was unclean, unhealthy, defective or uncertified.

JESUIT QUININE.

The alleged "corner" in quinine and the intervention of the British Government by prohibiting its exportation from this country recalls the fact that the earliest authenticated use of cinchona or, as it used to be called, Jesuit's bark, was in 1638, when the Countess of Cinchon, the wife of the governor of Peru, was cured of an attack of fever by its administration. The valuable bark, of which quinine is the principal alkaloid, was therefore named after the distinguished patient, and the knowledge of its properties was disseminated throughout Europe by members of the Jesuit brotherhood. There is, however, another claim as to the origin of the popular name, that the medicinal properties of the bark were discovered by a Jesuit missionary, to whom it was administered for malaria by a South American Indian.—*London Chronicle*.

The death rate from measles for 1915 was the lowest since 1879, and the rate from tuberculosis the lowest ever reached in this city.

ACIDOSIS AND CANDY.

Recently much publicity was given to the impression that candy eaten by children in a section of this city was the cause of many cases of acidosis, several of which ended fatally.

This is a very unfair indictment against the candy manufacturers in this city who do their utmost to produce their product under good conditions. During the last five years, and especially during the Christmas period, samples of the cheapest as well as the most expensive candies were examined by this department and in no instance was anything found deleterious to health.

At this time samples of candies were taken from places where it was intimated the cause of infection lay. All examinations proved negative, no evidence of any injurious mineral or vegetable ingredient being found.

The heat to which the candy is subjected in cooking naturally kills off all bacteria and in addition bacteria do not thrive in concentrated mixtures of sugar.

Candies that are exposed on sidewalk stands and push carts may spread disease, caused by handling and exposure. This department in its regulation on the covering of candies, etc., provides that all candies thus exposed shall be kept covered with a clean material and protected from dust, flies, animals and promiscuous handling.

FEDERAL AID FOR INDIGENT VICTIMS OF TUBERCULOSIS.

A bill is to be presented to Congress this session which provides for general aid for indigent victims of tuberculosis. It plans for the standardization of the treatment of tuberculosis throughout the country with a provision for Federal aid where necessary.

Victims of tuberculosis who are citizens of the United States but not legal residents of the states where they are temporarily located are to be provided care and treatment. These patients will be assigned to institutions selected by the government which will be subjected to inspection by the authorities of the United States Treasury Department. All cases must receive the approval of the Secretary of the Treasury and it is planned that the amount paid institutions will be fixed annually but will not be more than one dollar a day for each indigent patient.

EXPENSE FOR DEFECTIVES.

In New York about one-fifth of the revenue goes to the maintenance of the defective classes and in Ohio almost one-half. The number of insane and feeble-minded in the United States has jumped up to the awful figure of 300,000, while the deaf and blind in institutions are 160,000. Over 2,000,000 persons are annually cared for in hospitals and homes at public expense. Eighty thousand are confined as criminals and over 100,000 are provided for as paupers, of which latter two-thirds have children. To pay for this great army of defectives, nearly 4 per cent of the population, requires an annual expenditure of \$100,000,000.

THE INTERPRETATION OF LABORATORY REPORTS.

Laboratory methods of diagnosis for many of the communicable diseases are now in general use and are of unquestioned advantage. In order that these tests may be of the greatest value, however, it is necessary that the specimens be properly taken and that the physician to whom the report is sent should have sufficient technical knowledge to be able to interpret correctly the laboratory findings.

Laboratories maintained by state, county or municipal health departments, as well as by medical schools, hospitals and private interests, make it a simple matter to obtain expert examination of specimens. Outfits with complete directions for the collection of specimens are provided free of cost; culture stations are established at convenient locations where the outfits can be obtained and their return to the laboratory facilitated, and every opportunity is offered the physician to obtain expert laboratory service.

All these facilities have been appreciated and widely used by general practitioners and have had a large place in the work of locating communicable diseases and thus insuring adequate treatment and quarantine.

There has developed, however, an unfortunate tendency on the part of some physicians to regard laboratory returns as infallible and to govern the treatment absolutely by these findings regardless of the clinical symptoms of the patient.

When positive returns are received this is, as a general thing, the proper attitude to take; but so many elements enter into the subject of such a test which may obscure or vitiate the finding that it may safely be said a negative result is never conclusive. The laboratory examination should be

looked upon as an aid in diagnosis; it was never intended that it should make of the attending physician an automaton, nor is he justified in an absolute reliance upon a laboratory finding which does not agree with the clinical picture, and especially when the return is negative while the symptoms are suspicious. In such a case proper treatment for the suspected case should be given regardless of the report received, and other specimens submitted; in other words, the clinical picture when it points to the presence of an infection should stand first in the physician's estimation and his patient should receive all the helpful treatment which medical science can offer, even before any tests are made, the laboratory examination taking the place of valuable aid in confirming or questioning the presence of the disease suspected.

A single negative laboratory test can never be accepted as conclusive evidence of the absence of such infection. A positive finding, on the other hand, is usually accurate and in any event the patient should receive the benefit of any doubt by being given appropriate treatment while awaiting the outcome of further tests.

After the laboratory examination of diphtheria cultures, reports are sent of Positive, Negative, Suspicious, No Growth or Contaminated. A positive report means that typical diphtheria organisms of the A. C. or D. type "Wesbrook" have been found in the culture submitted. Usually this signifies the presence of the disease, but cases are found where healthy persons, not susceptible to the disease, are "carriers" of typical organisms. Sometimes also organisms are typical in morphology, but are nonvirulent.

A negative report indicates that careful microscopic examination fails to show the presence of typical organisms. It is evidence in favor of the absence of the disease but not conclusive. Several factors enter in which may be responsible for a negative finding when the disease is present. The physician in taking the culture may not reach with his swab the infected portion of the throat; this is especially liable to happen in laryngeal diphtheria. Other bacteria present may outgrow the diphtheria bacillus and crowd it out of the culture. This occurs most frequently when the culture becomes seeded with some varieties of quick-growing or liquefying bacilli.

A "suspicious" report indicates that diphtheria-like organisms have been found, but not typical, and therefore not warranting a more decided finding. A "no growth" report is rendered when there is no development of bacteria on the

surface of the medium. This may be caused by the taking of the culture too quickly after the use of disinfectants on the throat, by failure on the part of the physician to inoculate the medium after taking the swabs, or through use of an old serum so thoroughly dried out that it affords no nourishment for the development of bacteria.

A report of "contaminated" indicates the overgrowth and destruction of the throat culture growth by a foreign organism, usually one which also liquefies the serum.

In the examination of sputa for tuberculosis a positive finding may be accepted as conclusive of the presence of the disease. Negative findings are far from conclusive. The specimen submitted may be salivary secretion instead of material from the lungs, or the patient may have tubercular infection without the presence of open lesions which allow the bacilli to pass into the secretions. Successive negative returns are in the nature of accumulative evidence against the probable presence of tuberculosis, but should never be accepted as absolute proof since there are cases where the diagnosis of tuberculosis can be made only by expert physical examination.

On specimens submitted for the Widal reaction,— positive, negative and atypical reports are sent.

A positive return is sent when the specimen causes complete agglutination of typhoid bacilli with loss of motility. This reaction is usually given by blood from typhoid fever patients after the first week of the disease. It persists for variable lengths of time after the patient has recovered and is said to be present often in typhoid carriers who are perfectly healthy. It is also given by blood from persons who have received anti-typhoid vaccine. A negative report is sent when there is neither agglutination nor loss of motility of the typhoid bacilli. It usually indicates the absence of the disease but it must be remembered that the Widal reaction is frequently not obtained during the first week of sickness; also, that even after that time it is not a constant factor, sometimes being absent during the entire course of the disease and sometimes appearing and disappearing at intervals.

An "atypical" report is sent when a partial reaction is found, either partial agglutination or loss of motility. This return is absolutely inconclusive and further tests should be made.

In malarial tests a positive report is sent when the plasmodia are found in the specimen submitted.

A negative report is inconclusive especially in chronic cases where the parasites are few in the peripheral circulation.

Negative findings may be reported on specimens from undoubted cases of the disease in such chronic cases or after treatment with quinine. The specimen is best collected just before a chill; if taken immediately after a chill when the parasites are in their most minute form and free in the blood stream, the diagnosis is much more difficult.

The examination of smear preparations for the presence of gonococci is one of the most difficult tests that comes before the bacteriologist. In acute cases the diagnosis is usually easy, but smears from chronic cases require painstaking study.

Reports on these specimens simply state whether or not gram-negative intracellular diplococci, corresponding morphologically with gonococci, are found. Here, also, a negative test is inconclusive, and if the smear is sent for diagnosis and the symptoms are at all suspicious, other examinations should be requested. While bacteriological examinations of smears are useful in sizing up the condition of a chronic case it must be said that such tests even though repeatedly negative cannot be accepted as definite evidence of the noninfectiveness of the patient.

In conclusion, attention is again called to two points of vital importance: First, that the Widal reaction is seldom present until the second week of typhoid, and second, that antitoxin should be given in all cases where there are clinical symptoms of diphtheria.

If in the consideration of laboratory reports the physician will bear these facts in mind, working in cooperation with the laboratory to establish diagnoses, giving to negative findings their true valuation, and regarding them as inconclusive where suspicious symptoms are present, if he will look upon the laboratory expert as one who is anxious to assist him, equipped with special knowledge and apparatus for so doing, but with distinct limitations, he will find an increasing satisfaction in his relations both with those from whom he requests expert assistance and with his patients.

BABY NOTES.

Fresh air will improve the baby's appetite, digestion and make the cheeks glow with all signs of health.

While there is no objection to well children going about in summer weather with their legs bare, this should not be condoned in winter weather, and particularly in Boston where

the climate and temperature are so changeable. While some children may be able to withstand this treatment, there are many who are injured by such methods of hardening.

At this time of the year when the winds are sharp, or the ground covered with melting snow, or when it is extremely cold outside, babies should be kept indoors. Of course delicate children should have plenty of fresh air but they should not be exposed to the extremes of weather.

Seventy-three per cent of all babies dying under 1 month in this country and 39 per cent of those who died under 1 year were carried off as a consequence of conditions before birth.

Of all babies dying in this country yearly under 1 year of age, nearly one-sixth are carried off by pneumonia and bronchitis.

While there are no complete records as to the total number of children dying in this country under 1 year of age it is estimated at 300,000, and for the past 10 years more than 2,500,000.

It is agreed by experts in the work of baby saving that the birth record and the promptness of notification of birth are the important factors, and it has been said that this constitutes 75 per cent of the effective work.

"Promptness is a first requisite for preventive work" and this applies in all branches of health work.

NOTES.

The last five weeks in 1915 helped materially to increase the total of Boston's deaths for the year. There were just one hundred more in that period than in the corresponding period last year.

The rate from typhoid fever is the lowest in the history of the city, having been reduced to the low figure of 5.3 per 100,000 population against 9.2 last year. For the past few years there has been a gradual decline in deaths from this disease but this year's mark is especially gratifying, and 22½ per cent of this year's typhoid deaths are nonresidents.

For the week ending November 13 there were 17 deaths from pneumonia and since then the increase each week has been

constant, and in the last week of the year 67 people died from this cause, which is the highest number in many years.

In this country there are annually about 75,000 deaths from cancer and 150,000 deaths from tuberculosis. After 40 years of age a person is more likely to die of cancer than heart disease or tuberculosis.

According to reliable French authorities the mortality among the sick and wounded soldiers of France is only 18 per 1,000 against a much larger figure last year. In times of peace the mortality in Paris hospitals is 53 per 1,000.

The death rate of persons at all ages is steadily decreasing in England and Sweden.

In 1850 in this city 29 people died of cancer, whereas in the year just ended 853 deaths will be registered from this disease.

For the year ending December 31, 1915, the number of immigrants arriving at the port of Boston numbered only 11,231 against 47,595 during 1914. This great decrease is of course due to the war in Europe.

It is estimated that during the past year more than 300,000 people in this country received inoculation against typhoid fever.

SUMMARY OF VITAL STATISTICS FOR 1915.

Deaths reported before January 7, 1916, for 1915 were 12,018.

Deaths of nonresidents numbered 1,610 against 1,544 in 1914, and known deaths of Bostonians outside of the city

numbered 704 against 768 in 1914. Corrected for these two factors the 1915 death rate per 1,000 population is 14.85 against 15.01 in 1914.

A few provisional figures for 1915 are given below:

Cases, Deaths and Death Rates per 100,000 of Population.

	Cases.	Deaths.	Death Rate.	1914 Death Rate.	Previous Lowest Death Rates.	
					Year.	Rate.
Typhoid fever.....	388	40	5.3	9.0	1912	8.0
Diphtheria.....	2,942	218	29.1	22.9	1912	14.3
Scarlet fever.....	2,959	79	10.6	8.8	1912	4.5
Measles.....	5,175	40	5.3	8.4	1879	0.6
Whooping cough.....	2,190	111	14.8	6.2	1905	4.9
Pulmonary tuberculosis.....	2,820	1,031	137.8	141.9	1914	141.9

The above table shows in 1915 new record low death rates for both typhoid fever and pulmonary tuberculosis.

Attention should be called to the fact that included in the above totals were the following deaths of nonresidents:

Typhoid fever	9
Diphtheria	54
Scarlet fever	26
Measles	4
Whooping cough	2
Pulmonary tuberculosis	82

From typhoid fever 9 nonresidents died in Boston and 4 Bostonians died outside. And from pulmonary tuberculosis 82 nonresidents died in Boston and 191 Bostonians died outside, so that corrected 1915 death rates per 100,000 population for these two diseases are respectively 4.7 and 152.3.

Deaths under one year numbered 2,032 against 2,007 last year.

Births in Boston reported before January 7 numbered 19,571, while the final total for 1914 was 19,463. The City Registrar estimates that about 100 more will be reported for the year. The infant mortality rate in that case will be 103, or equal to the record rate of 1914.

Other Comparisons for 1914 and 1915.

CAUSES.	Total Deaths, 1915.	Total Deaths, 1914.	Non-residents, 1915.	Non-residents, 1914.
Total deaths from all causes.....	12,018	11,831	1,610	1,544
Anterior poliomyelitis.....	4	7	.....	2
Cerebrospinal meningitis.....	30	39	7	3
Glanders.....	3	3	.....	.....
Malignant pustule.....	2	.....	1	.....
Tetanus.....	7	10	4	7
Other tubercular.....	187	219	34	52
Accidental and violent.....	818	833	143	161
Bright's disease and nephritis.....	837	822	64	69
Bronchitis.....	127	117	6	2
Cancer.....	853	879	149	166
Diarrhea and enteritis under 2 years.....	451	480	69	119
Diarrhea and enteritis over 2 years.....	76	69	18	11
Dysentery.....	12	26	2	6
Erysipelas.....	48	50	5	4
Heart disease.....	1,608	1,882	131	155
Meningitis and encephalitis.....	66	51	11	5
Old age.....	25	23	2	.....
Pneumonia.....	1,460	1,385	114	107
Premature birth.....	355	422	51	55
Puerperal diseases.....	156	127	40	19
Rheumatism.....	32	36	.....	2
Total deaths under 1 year.....	2,032	2,007	318	328
Total deaths under 5 years.....	2,959	2,774	.....	.....
Males.....	6,296	6,260	888	863
Females.....	5,721	5,571	721	681
Hospitals and institutions.....	5,478	5,140	1,432	1,322
Over 60 years of age.....	3,632	3,438	.....	.....
Colored.....	364	370	.....	.....

MORBIDITY AND MORTALITY.

Communicable Diseases.

Analysis of the mortality and morbidity rates for the past year shows that Boston, with modern hospitals and facilities for the care of communicable diseases, is caring for many cases from surrounding towns and cities.

Whereas in 1913 only ten deaths were reported from scarlet fever in the nonresident group, during the past year twenty-

six such deaths occurred in Boston. In 1913 there were eleven deaths of nonresidents from diphtheria and fifty-four such deaths in 1915. Almost 25 per cent of our deaths from typhoid fever the past year were cases brought into Boston for hospital treatment. The majority of the cases of diphtheria and scarlet fever brought into Boston were treated in the West Department of the Homœopathic Hospital.

Measles, 1915.

Forty deaths were reported from measles during the past year, against 62 the year of 1914, 77 in 1913, and 111 in 1912. The decreased mortality from this disease is especially gratifying and the results demonstrate the efficacy of the methods employed in its control. During the past three years an endeavor has been made to lower the mortality from measles. Each case as soon as reported is visited by a medical inspector and if the case is not receiving proper medical treatment at home, it is sent to the hospital. Many health departments have given up all efforts to control this disease on the ground that the amount of time and money expended for its control is not attended with satisfactory results, either in morbidity or mortality. Morbidity probably cannot be controlled, but the great aim of this department is to see that cases that require medical and hospital care are furnished with the same, and it is only by these measures that the mortality can be reduced.

Typhoid Fever, 1915.

The modern preventive work for the control of typhoid fever has shown excellent results during the past year. The number of cases and deaths reported are the lowest since this disease was reportable to this department, 1882. It is true that the past year has been free from any outbreak due to milk infection, but many of the cases have been imported, *i. e.*, the infection has been contracted outside the city, where people have been away traveling or spending vacations. The education of the public, and especially the anti-typhoid treatment to contacts and persons that have been exposed to this disease, are probably responsible to a great extent for the lowering of the mortality. It is the rule of this department that once a case of typhoid fever is reported, if the patient cannot have all the facilities that a modern hospital affords for his care, he must be removed to the hospital. Every contact is advised to receive the anti-typhoid treatment.

Ophthalmia Neonatorum, 1915.

The results of the past year are especially gratifying in the campaign that was made for the prevention of blindness, especially of the newborn. The same care and oversight over the newborn has been continued as in former years. The medical inspectors visit all these cases as soon as reported, and also before the case is released he certifies as regards the condition of the child's eyes. During the interval, all these cases are kept under observation by our visiting nurses, and the same methods are pursued as in the other diseases, viz., if a baby cannot receive proper medical treatment at home it is removed to the Eye and Ear Infirmary, forcibly, if necessary. Removal of cases has not been attended with so much opposition as in former years, since through arrangements with the Eye and Ear Infirmary mothers are admitted to the hospital with the newborn, if necessary, in order that the children may be nursed.

Pertussis, 1915.

There were 111 deaths from this disease during the past year, more deaths than from measles and typhoid fever combined. This high mortality is due principally to the lack of hospital accommodations for the care of whooping cough. Already provision has been made for the care of these cases in the new West Department of the City Hospital. Contracts have been let, and within a few months Boston will be in a position to care for all cases of whooping cough that require hospital care, the same as is now done with cases of diphtheria, scarlet fever, typhoid fever and measles. With hospital accommodation at our disposal for the care of these cases, it is hoped that the mortality from this disease will be materially reduced.

The Following is a Summary of the Work Done by the Different Divisions in the Department for the Five Weeks Ending January 1, 1916.

MORTALITY FOR THE FIVE WEEKS AND SAME PERIOD IN 1914.

	1914.	1915.
Total deaths	1,215	1,382
Nonresidents	136	162
Rate	17.20	19.26
Corrected rate, nonresidents deducted	15.28	17.00
Deaths under 1 year	198	218
Deaths under 5 years	273	318
Deaths over 60 years	365	466

NUMBER OF CASES AND DEATHS FROM COMMUNICABLE DISEASES.

	Total Cases.	Total Deaths.	Nonresidents. Cases.	Deaths.
Diphtheria	311	20	51	10
Scarlet fever	256	3	44	1
Measles	240	5	3	1
Typhoid fever	13	2	2	0
Whooping cough	286	11	1	0
Tuberculosis (all forms)	258	103	22	9

CENTRAL DIVISION.

Legal notices authorized	601
Forcible removals ordered	4
Prosecutions authorized	6
Stable hearings	4
Hearings	2
Lying-in hospitals certified	3
Premises ordered vacated	7
Miscellaneous orders	5

Licenses — Permits.

Milk	127
Manicure — Massage	30
Hens	12
Licenses to peddle fruit and vegetables	7
Dump	7
Licenses renewed to remove bones, grease, etc.	68
Numbers assigned	12
Vehicles inspected and approved	599

COMMUNICABLE DISEASES.

Number of visits by medical inspectors	4,715
Antitoxin given	69
Deaths investigated	16
Cases brought to Boston for treatment	116
Number of visits by nurses	3,667
Vaccinations	20
Vaccination certificates	6
Disinfections for tuberculosis	5
Patients forcibly removed to hospitals	4

CHILD HYGIENE.

Prenatal visits	71
Postnatal visits	5,317
Number of babies visited	1,037

BACTERIOLOGICAL LABORATORY.

Examinations for Diagnosis and Release.

Diphtheria	2,273
Tuberculosis	493
Typhoid	141

Gonorrhea	260
Other examinations *	368
Bacteriological milk examinations	759

FOOD INSPECTION.

Live Stock Inspected at Brighton Abattoir.

Cattle inspected	713
Calves inspected	1,803
Swine inspected	11,681
Animals condemned, whole	76
Parts condemned	503

Inspection of Provisions — Articles Condemned.

Meats and Fish:		Miscellaneous:	
Poultry	382 pounds	Walnuts	1,090 pounds
Halibut	38 pounds	Eggs	22 dozen
Beef	164 pounds	Sweetbreads	25 pounds
Pork	230 pounds	Prunes	16 pounds
Liver	2 pounds	Stores examined	1,244
Smelts	7,490 pounds	Prosecutions	12
Miscellaneous:		Fines	\$95
Cranberries	400 quarts		

MILK INSPECTION.

(Examinations as to Statute Requirements.)

Samples Examined:	
Chemical examinations of milk	1,618
Bacteriological examinations of milk	759
Bacteriological examinations of ice cream	4
Chemical examinations of vinegar	198
Chemical examinations of butter and cheese	180
Chemical examinations of ice cream	4
Chemical examinations of evaporated milk	1
Evaporated milk	1
Number of court cases	40
Fines	\$450

SANITARY INSPECTION.

New reports	4,391
New tenement house reports	241
Legal notices recommended	601
Reinspections	6,340
Nuisances reported	5,277
Complaints investigated	1,268
Court cases	11
Fines	\$90

* Examinations of rats. Feces, for Typhoid Fever, Malaria, Paratyphoids, Ophthalmia, Organisms, K. L. vir. Vir. for Strep. Genito Urinary Tuberculosis.

"If medicine is to render its highest and best service the time must come when all citizens will seek a thorough physical examination once a year or oftener, and diseases should be prevented or detected while yet curable.

"In the past century fifteen years have been added to the average of human life, and a like addition could be secured were well-established hygienic laws obeyed."

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